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ABSTRACT

While the member countries of the Asia-Pacific Economic Cooperation (APEC) have many differences in culture, history, and level of economic development, all APEC representatives who attended this ministerial agreed on the importance of establishing education standards and examination systems to meet the needs of their people in the 21st century. The statements of the following 14 officials who addressed the conference are included in this document: Lamar Alexander, Secretary of Education, United States of America; Kim Beazley, Minister for Employment, Education and Training, Australia; Abdul Aziz bin Umar, Minister of Education, Brunei Darussalam; Anita Hagen, Deputy Premier, Minister of Education, and Minister Responsible for Multiculturalism and Human Rights, Province of British Columbia, Canada; Teng Teng, Vice Chairman, State Education Commission, People's Republic of China; John Chan Cho-chak, Secretary for Education and Manpower, Hong Kong; Fuad Hassan, Minister of Education and Culture, Indonesia; Kunio Hatoyama, Minister of Education, Science and Culture, Japan; Wan Kyoo Choo, Minister of Education, Republic of Korea; Alexander Lockwood Smith, Minister of Education, New Zealand; Luis R. Baltazar, Undersecretary, Department of Education, Culture and Sports, Republic of the Philippines; Lee Yock Suan, Minister of Education, Singapore; Kao-Wen Mao, Minister of Education, Chinese Taipei; Kaw Swasdi-Panich, Minister of Education, Thailand. Two appendices also are included: (1) Declaration of the APEC Education Ministerial, and (2) a description of the Asia-Pacific Economic Cooperation (APEC) organization. (DB)

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Education Standards for the 21st Century:

Opening Statements of Ministers at the Asia-Pacific Economic Cooperation Education Ministerial

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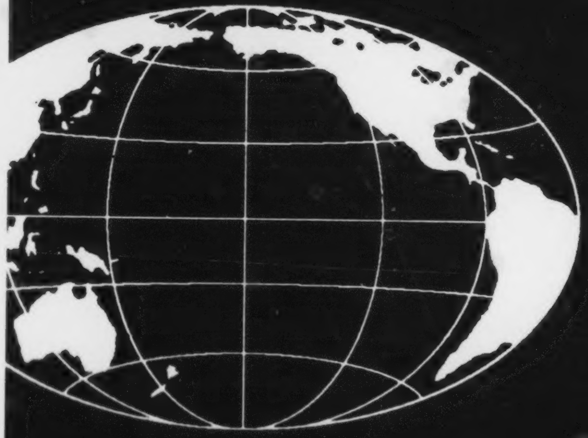

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Education Standards for the 21st Century:

Opening Statements of Ministers at the Asia-Pacific Economic Cooperation Education Ministerial
August 1992

Office of Policy and Planning
U.S. Department of Education

U.S. Department of Education
Lamar Alexander
Secretary

Office of Policy and Planning
Bruno V. Manno
Assistant Secretary

Planning and Evaluation Service
Alan Ginsburg
Director

THE WHITE HOUSE

WASHINGTON

August 5, 1992

I am delighted to send greetings to the members of the Asia Pacific Economic Cooperation who are gathered for this special ministerial-level meeting on "Education Standards for the 21st Century." Welcome to our Nation's Capital.

Education is the key to both economic and human development. By promoting academic achievement and lifelong learning in our respective nations, we will not only enrich the lives of individuals -- which is a worthy goal in and of itself -- but also increase the productivity and competitiveness of our economies. When I proposed this meeting during my visit to Canberra in January, I envisioned the Ministerial as an opportunity for APEC members to begin a process of cooperation and dialogue on the vital issue of education. America 2000, the United States own strategy to achieve excellence in education, is already taking root in more than 40 States and 1,500 communities across the country as Americans work together to set high standards for our students. I know that lofty standards of academic performance and personal development are also important goals to each of you.

By focusing attention on critical demands for the next century, this ministerial-level meeting can become the basis for many more years of mutually beneficial educational exchange. I certainly hope that we will increase understanding and collaboration among APEC members as we strive to improve educational standards and, in turn, human lives.

Barbara joins me in sending best wishes for every future success.

G Bush

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UNITED STATES DEPARTMENT OF EDUCATION
THE SECRETARY

Education standards — definitions of the high expectations we have for what all our children should know and do — and an examination system — a way of knowing whether all our children are learning to those standards — are the foundation upon which societies build good schools. But unlike many societies in the Pacific Rim, the process in the United States of creating voluntary national standards and exams is in its infancy.

That's why I was excited when in January, 1992, while in Australia, President Bush proposed a meeting of education ministers from the Asia-Pacific Economic Cooperation (APEC) group to discuss Education Standards for the Twenty-First Century. I saw this as a good opportunity to find out from the other ministers what they've learned from the process of setting education standards and creating an examination system.

This document contains remarks made by 14 education ministers from members of APEC attending the ministerial. When you read them, I think you'll be struck by the similar challenges and priorities ministers have in preparing their children for the Twenty-First Century. You'll also be struck by the fact that for many societies in this region, education standards apply to more than content areas like science, mathematics, and writing. Standards are a reflection of a society's culture and values. That's an important point to include in the discussion that we are now having in the United States on standards and testing.

In 1989, the President and the governors of our states created six National Education Goals for the year 2000. These goals call for all children to start school ready to learn; to raise the high school graduation rate to at least 90 percent; to ensure that all children are competent in core subject areas; to achieve excellence in mathematics and science; for all adults to be literate and able to compete in the modern workplace; and to rid all schools of drugs and violence.

More than 2000 communities across the country are working in many ways to achieve these goals. Voluntary national education standards and exams are a key element of the AMERICA 2000 community strategy to achieve these ambitious goals. I believe this document will further our thinking on how voluntary standards and tests can best prepare our children for the Twenty-First Century.

Lamar Alexander
January 1993

400 MARYLAND AVE., S.W. WASHINGTON, D.C. 20202-0100

FOREWORD

The Asia-Pacific Economic Cooperation (APEC) Education Ministerial, held in Washington, D.C. on August 5-6, 1992, was the end of a long planning process among APEC members. It began when President Bush, during a trip to the Pacific Rim in January, 1992 proposed a meeting of education ministers from APEC to exchange ideas on how each member was preparing its students for the next century. Recognizing the high standards of educational excellence set by APEC members and the importance of education for creating a good life as well as economic prosperity, the President believed that such a meeting would benefit the entire region.

In response to the enthusiastic reception among APEC members to the President's proposal, the United States hosted a planning meeting in Singapore in late April, 1992 to develop a consensus on the theme and purposes of the ministerial. During the meeting, which I chaired, many views were expressed on the ministerial. While members agreed that education was an important topic for international discussion, different views were expressed as to the best theme for such a discussion. After much discussion, we agreed that the theme would be "Education Standards for the 21st Century," fully recognizing that the development of such standards should be left to each member's priorities and needs.

In a short period of time, APEC members worked cooperatively to plan and carry out the first meeting of education ministers of APEC. The APEC Education Forum that was created as a result of this ministerial signifies the desire among members to continue to work cooperatively to exchange information and persons on education topics of mutual interest.

As Secretary Alexander notes, APEC Education Ministers often voiced the same priorities and concerns about meeting the challenges of the 21st century. As you read the remarks made by each minister, I believe that you'll get the sense that each member has taken important steps toward meeting those challenges. This document marks a beginning: APEC members working together to develop high education standards, useful examination systems, and effective instructional practices that will help all our people live and work together in the 21st century.

Bruno V. Manno
Assistant Secretary for
Policy and Planning

OVERVIEW OF THE MINISTERIAL

Theme: The Importance of Education Standards and Testing

Differences in culture, history, and level of economic development among the Asia-Pacific Economic Cooperation (APEC) members contribute to a varied, and sometimes contrasting, range of education priorities and goals. For example, while some APEC members are seeking greater central control in their education systems, others are trying to give more control to local authorities. Despite this diversity, all APEC representatives agreed on the importance of establishing education standards and examination systems to better meet the needs of their people in the 21st century.

Caution in the Face of Technological and Economic Growth

All representatives mentioned the need to prepare students for a world in which technical knowledge will be increasingly important and societies will be increasingly interdependent, but many speakers cautioned that attention to technology and economic growth must be kept in perspective.

Attention to Culture

Several representatives asserted the vital role culture must play in education. Minister Hassan of Indonesia emphasized that one's culture, which entails not only traditions but also moral values, provides "roots" and a sense of identity. He was not alone in noting the importance of maintaining one's own culture, especially in an era of increasing internationalization. This theme was mentioned by representatives of societies generally considered to be homogeneous and by those whose societies comprise many diverse ethnic groups.

Several representatives discussed their societies' experiences in accommodating the needs of different populations within their own borders. Minister Smith of New Zealand said that his government had been pleased with the results of granting more control for education of the Maori, the indigenous people of New Zealand, to the Maori themselves. And in the People's Republic of China, Vice Chairman Teng noted new rural schools that adapt the traditional curriculum to the needs of rural students have been much more successful than schools that use the curriculum without change. In discussions of standards it appears vital to recognize cultural diversity and to allow diverse cultures to flourish.

Developing Well-Rounded Students Who Can Adapt to a Changing World

Just as economic growth should not come at the expense of cultural identity, the need for greater technical skill and scientific knowledge must not be met at the expense of overall social and intellectual development. Minister Aziz of Brunei Darussalam pointed out how relatively new technologies have already become obsolete. Given such rapid change, students must have a broad base of knowledge and an appreciation of the connections among different disciplines.

This appreciation for the wholeness of knowledge is a key element of efforts described by Minister Cho of the Republic of Korea to develop education policies to encourage logical and creative thinking. Minister Swasdi-Panich noted that Thailand's education goals have evolved beyond providing labor for a developing economy toward emphasizing overall quality-of-life issues; if these reforms are successful, students will be able not only to respond to change but also to initiate it.

Strengthening the Teaching Profession

In their discussions of education reform, almost all representatives mentioned plans aimed at reforming various aspects of the teaching profession, including improving preservice teacher training programs, upgrading the skills of current teachers, and attracting high-quality people into the profession. Secretary Chan of Hong Kong mentioned a plan to "strengthen teacher preparation and development, promote greater professionalism, and introduce graduate teachers into primary schools." Minister Mao discussed revisions in Chinese Taipei's Teachers' Law and Teachers' Education Law to improve the quality of classroom instruction. Australia is considering a proposal to establish a national panel to regulate the teaching profession; Minister Beazley emphasized that this panel is to be composed entirely of teachers. Several APEC members are committed to making the teaching profession more attractive. Minister Hatoyama noted that the Japanese government is required by law to try to keep public school teachers' salaries higher than the salaries of general public servants.

Developing Improved Means of Assessment

As interest in education grows, it is not surprising that many APEC members are using or developing means of assessing and reporting educational progress. Minister Lee described Singapore's system of national assessments, which are conducted at the end of the sixth, tenth, and twelfth grades. National examinations in the Philippines are given every year, and according to Undersecretary Baltazar, these assessments play an important role in the formulation of education policy.

The United States and Canada also are developing plans for national assessments. Secretary Alexander described work on a voluntary national examination system in the United States. In Canada, which has no central education authority, the provinces and territories have developed a measure of educational achievement for 13- and 16-year-old students, which, Deputy Premier Hagen says, the provinces and territories may tailor to their own needs.

Conclusion

Any "international discussion of standards" runs the risk of being seen as a "discussion of international standards," which was certainly not the purpose of this gathering. What is clear, however, is that these APEC societies are becoming increasingly interdependent. Actions taken within each society have an international impact. In this context, an open discussion of education standards in different societies can only be enlightening for the participants involved. Despite the contrasting perspectives of the participants, the meeting laid a strong foundation for future exchanges of information and people.

MINISTERS' STATEMENTS

UNITED STATES OF AMERICA

Lamar Alexander, Secretary of Education

Summary of Address

Secretary Alexander discussed some of the reforms in the United States' education system being undertaken to develop voluntary national education standards and exams. These reforms attempt to establish standards through consensus rather than decree. For example, the six National Education Goals, the first of their kind in U.S. history, were agreed upon by the governors of the 50 states in 1989. In the America 2000 strategy to reach our goals, over 2,000 communities are taking part voluntarily by: adopting the six National Education Goals; creating a strategy to meet the goals; developing a community report card to report on progress in achieving the goals; and designing at least one new Break-the-Mold New American school. A new element of the America 2000 strategy is the effort to develop a national consensus on what knowledge is essential to America's youth and on ways to test that knowledge. In addition, Secretary Alexander described the effort to create "break-the-mold" schools. Finally, he discussed measures being taken to allow teachers greater opportunities to further their training and have more flexibility in how they teach in their classrooms.

Address

Welcome to the first session of the APEC Education Ministerial. I am Lamar Alexander, U.S. Secretary of Education. Next to me is Dr. Diane Ravitch, Counselor to the Secretary as well as Assistant Secretary of Education for Research and the Improvement of Practice, and Dr. Bruno Manno, Assistant Secretary of Education for Policy and Planning.

I want to thank all the ministers and the heads of delegations for coming to this important event. Ever since President Bush proposed the idea of a meeting of APEC Education Ministers on January 2, 1992 in Australia, we've looked forward to hosting this event. On behalf of the President, I welcome you to the Ministerial.

We all know how much economic progress is linked to educational progress. When the APEC Foreign Ministers and Financial Ministers meet, it is usually to discuss political and economic issues. Today we meet to discuss a different topic, but one that is directly linked to the economic vitality of APEC members: Education Standards for the 21st Century. By standards, I mean those levels of achievement, performance, and personal development that our students must attain in order to be productive workers and responsible citizens.

Before becoming Secretary of Education in 1992, Secretary Alexander was president of The University of Tennessee, a position he had held since July 1988. He served as governor of Tennessee from 1979 to 1987. As chairman of the National Governors' Association, he led the fifty-state education survey, *Time for Results*. In 1988 the Education Commission of the States gave him the James B. Conant Award for "distinguished national leadership in education." He is a Phi Beta Kappa graduate of Vanderbilt University and was a law review editor at New York University.

Education is a fundamental concern of every single one of our societies. We often say in the United States that education is not usually on the front pages or at the top of the evening news, but it is usually the solution to whatever is on the front page or at the top of the evening news.

We have much to learn from all of you, and I thank you for coming. It's gratifying that we can assemble in this spirit of mutual cooperation and understanding. I thank you for your willingness to participate and to share ideas in this forum. This promises to be very exciting. And if the Education Symposium[1] that just finished is any indicator, and I think it is, we can look forward to similar success with this Education Ministerial.

> *"...as we talk about educational standards in our country, it is virtually impossible to do that without understanding what standards are in other places in the world."*

In the United States, we are increasingly aware of the importance of discovering what children in other countries know and are able to do. It's important because we want to be able to live and work in a peaceful and successful way with people from all around the world. So, as we talk about education standards in our country, it is virtually impossible to do that without understanding what standards are in other places in the world.

The issue of education standards is not a new one. For example, yesterday, I learned from Vice Chairman Teng of the People's Republic of China that their education system dates back 3,000 years to the school of Confucius. The traditional Chinese school taught six subjects: moral values, music, martial arts, history/literature, math, and the ultimate of vocational education: how to drive a horse-drawn cart. Those subjects represented the four corners of Chinese education: the moral, the intellectual, the physical, and the arts. So, 3,000 years ago there was some understanding about what students should know and be able to do, so we're just continuing that conversation 3,000 years later.

I mentioned in the symposium two days ago that our family had the privilege of living in Australia for six months in 1987. And we had the privilege of visiting many of the countries that are represented here at this ministerial. One of the things that struck us in our travels was how the world was changing. I think in America we weren't as aware of that because historically we've been so self-sufficient, not aware of the rest of the world and our need to learn from the rest of the world. We now recognize that there is a great deal to learn from others and we are beginning to look beyond our borders for answers and solutions to the challenges we face in the United States.

One U.S. company's experience provides an excellent example of this. About 10 years ago, General Motors, our largest auto manufacturer, sent a team of its union members and management people all around the world to see what it would take to build a car that would compete with cars built in other countries. The team came back and went to work on the Saturn car. They believed that because they built it to world standards and started from scratch to meet those standards that they would be very successful — and they have been.

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[1] Preceding the ministerial, the United States sponsored an Asia-Pacific Education Symposium on education standards. Education experts from all 14 APEC members met to exchange ideas on several key topics related to the symposium theme.

Because the standards are different today in that automobile company, the skills and knowledge required of their employees must be higher. In that company workers need to be able to communicate effectively and work in teams. They need to know more than simple addition and subtraction; they need to be able to use estimation techniques and understand probability. Moreover, workers need to think analytically and critically to come up with solutions to problems as they arise.

> *"In the United States, our schools are structured for a different era — they're stuck in a time warp."*

And too, our children are growing up differently as I suspect they are in every single member represented in this group. In the 1950s in this country there used to be a television show called "Ozzie and Harriet," which was the idealized American family — mom, dad, and two children named Ricky and David. This is not the Ozzie and Harriet generation anymore in the United States, and our schools should be structured differently.

In the United States, our schools are structured for a different era — they're stuck in a time warp. Just in the heart of America where I grew up, near the Great Smokey Mountains in Tennessee, there is a place where my grandfather went to school about three months a year. There is a place where my father and I went to school, which is open 180 days a year, and it is a very good public school. Twenty-two miles away down the road is Tennessee Meiji Gakuin, a Japanese high school with a different set of educational standards. They're open 240 days a year. Our schools are out-of-date.

How are we trying to bring American education into the 21st century? We now have a new direction in the United States for our education efforts. For the first time in our history, we have six ambitious National Education Goals. It may be a common thing for many of the APEC members to have national standards and goals, but this is very new for us. President Bush and all of the nation's 50 governors met in 1989 at a summit at the University of Virginia and from that meeting came our six National Education Goals: all children will start school ready to learn; raise the high school graduation rate to at least 90 percent; ensure that all children are competent in core subject areas; achieve excellence in mathematics and science; ensure that all adults are literate and able to compete in the modern workplace; and rid all schools of drugs and violence. Those are our goals; and they have generally been accepted in this country.

We work a little differently as do some of the other members of APEC in that we have a very decentralized system. So when we use the word "national" in terms of education, it means coming to some consensus or setting a direction. It means working to gain agreement of states and local governments. We don't give orders from Washington, D.C. about what the national curriculum ought to be.

So how do we move a decentralized system like the United States forward in education? We are mobilizing our country to achieve the National Education Goals through the America 2000 strategy, which the President announced in April 1991. The President has challenged each community to do four things: first, adopt the National Education Goals; second, develop their own strategy for reaching them; third, issue a report card on that progress; and fourth, think about creating at least one break-the-mold New American School, a school that would address the way children are growing up today.

> *"We don't give orders from Washington, D.C. about what the national curriculum ought to be."*

Over 2,000 communities across the U.S. have accepted the President's challenge to adopt the National Goals. We hope to have thousands more communities working toward the goals. Of course that means that as we think about the goals and challenging subject matter, we have to define what we mean, and that is what we are doing in developing education standards for the 21st century.

We have been working with educators and governors in three major areas that relate to establishing voluntary National Standards: one is to develop a consensus about what American children ought to know and be able to do in order to live, work, and compete in the world; two is a voluntary national examination system; and three is state-level curriculum frameworks. These frameworks will provide guidance on what students must know at different grades in specific subject areas. They provide educators with a set of standards by which they can judge the progress of students in specific skill and knowledge areas.

One example can be found in the area of mathematics. Standards have been developed by the National Council of Teachers of Mathematics, and similar efforts are underway for history, science, English, civics, and the arts. We are trying to establish a consensus about what is important. This will change our education system more than many people might think. For example, the new math standards are now in place in about 40 percent of classrooms in America. With 110,000 schools nationwide, that's a broad impact.

Earlier this year, the bipartisan National Council on Education Standards and Testing[2] developed recommendations on a broad framework for a national examination system. This idea is also very new in this country. It will be voluntary in the sense that in San Antonio, Texas for example, a local school board will have to decide to use the system, but we believe that will happen quite a bit. We believe citizens, parents, and school boards will ask if their children in San Antonio or Atlanta, Georgia, or Omaha, Nebraska are learning the mathematics they need to learn in order to live, work, and compete with children from different parts of the world. They'll then want to take an examination system that is geared toward those standards and use it to see how the children and schools are doing. What we hope to learn from many of you here is how those examination systems work, what the pluses and minuses are, and how you develop them.

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[2] In 1991, President Bush signed into law a bill passed by Congress establishing the National Council on Education Standards and Testing. It was to determine the desirability and feasibility of national standards and tests in the United States. Composition of the Council reflected the President's and Congress' desire for broad public participation in examining this question.

> *"We would like to start from scratch as much as possible and rethink schools, so that they meet the needs of today's families and their children."*

At the symposium yesterday, there was much discussion of our effort to create new kinds of schools. We would like to start from scratch as much as possible and rethink schools, so that they meet the needs of today's families and their children. President Bush asked American businesses to raise $200 million for this effort, and they have responded. The New American Schools Development Corporation (NASDC) was created. Almost 700 design teams submitted proposals for break-the-mold New American Schools. Already, NASDC has selected 11 design teams.

Let me give an example. Outside Chicago there's a small community with big ideas named Bensenville. It is a village of 17,000 that is taking to heart the African proverb, "It takes an entire village to educate one child." Their plans are to turn the entire community into a school with a lifelong learning center at the hub. The children will learn mathematics at the bank, journalism at the local paper. The school will be opened year-round, and the facilities will be open from 6 a.m. until 10 p.m. daily.

There are a variety of other efforts involving teacher development and training. President Bush recognizes that if our education system needs to change in the 1990s, that will require a great deal of training and retraining of educators and education leaders. So the new higher education bill[3] that passed this last week has within it national academies for teacher retraining, which we hope will encourage the development of state and local academies for retraining of teachers. Teachers need more time for such training.

The President has also pushed strongly for different routes into teaching, to let people who are chemists at a company at age 45, high-quality people, find easier ways to get quickly into the classroom to teach chemistry. Our traditional education system sometimes takes far too long and discourages them from what they are doing.

Finally, regarding teacher development, Admiral Watkins, our Secretary of Energy, has led an effort to identify all of the money that the federal government spends on elementary and secondary mathematics and science education, approximately $2 billion, to refocus it on teacher retraining.

In the symposium yesterday, Dr. Harold Stevenson, Professor of Psychology at the University of Michigan, spoke. In his book "The Learning Gap" he talks about his years of research among some of the members of APEC, and he asks what are the costs of ignoring the global context in which we live? What are the misconceptions of ourselves that we might perpetuate by failing to look outward toward sights that could illuminate our self-perceptions?

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[3] In 1992, President Bush signed into law a bill passed by Congress reauthorizing the Higher Education Act. This bill covers Federal programs in postsecondary education, including teacher education.

About 100 years ago, another American author wrote his last book based upon the trip he took from America all the way over to Australia, New Zealand, and Indonesia — his name was Mark Twain. He had this observation in his book, The Innocents Abroad: "Broad, wholesome, charitable views of men and things cannot be acquired by vegetating in one little corner of the earth all one's lifetime."

So this meeting today is to suggest that we have a great deal to learn by coming away from our little corners of the earth and meeting together to talk about how families in each of our areas are doing, and what our children need to know to live and work with children who are growing up all around the world.

I look forward to hearing from each of you, and learning from you, and establishing a basis for further discussion. Again, thank you all very much for coming.

Discussion

Responding to a question about where the impetus toward national education standards came from, the Secretary stated that it has come from many different interests. One major force has been the business community, which has realized that its workers are not as highly skilled as those of competing nations. Educators also have played a major role. Secretary Alexander cited the work of the National Council for Teachers of Mathematics as an example of movement toward reform coming from within. In addition, politicians from both parties have given strong support for this movement. The Secretary emphasized that rather than establish standards through legislation, a national consensus is being sought.

AUSTRALIA

Kim Beazley, Minister for Employment, Education, and Training

Summary of Address

Minister Beazley described recent efforts in Australia to increase cooperation between national, state, and territorial bodies. As a result of this increased cooperation, differences between regional education systems have been reduced, education is better integrated with other areas of economic and social policy, and federal funding for schools is more stable. Both retention rates and participation rates have improved dramatically. Attention is focused on issues of equity and outcomes for disadvantaged populations. Minister Beazley gave examples of several cooperative efforts undertaken jointly by national, state, and territorial bodies including a statement of common national education goals, an agreement to develop national curriculum statements, the establishing of a curriculum corporation to produce materials for all schools, the National Project on the Quality of Teaching and Learning, and two national reports on education. Two issues of major importance in the future will be improving the teaching profession and developing more defined pathways between education, training, and employment. Minister Beazley concluded his remarks by emphasizing the importance and the benefits of cooperation within APEC in working toward higher educational standards.

Address

It gives me great pleasure to be able to give you an Australian perspective of education standards for the 21st century.

Australia welcomes this meeting as an important enhancement and development of Asia-Pacific Economic Cooperation. It is the first time in the three-year history of APEC that ministers concerned with a particular aspect of economic cooperation have met to discuss issues they face in common.

In Australia, under our federal system of government, the states and territories have primary responsibility for operating schools. The Australian government contributes funding to schools and has a role in identifying national priorities for schooling, facilitating cooperative efforts among education authorities, and encouraging quality and greater efficiency in Australian schools. In

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As head of the Department of Employment, Education, and Training, Minister Beazley is responsible for the government's efforts in the areas of youth affairs, employment and training; elementary, secondary and higher education; research and scientific development; and corporate services. He holds two master's degrees, was a Rhodes Scholar, and lectured at Murdoch University in Perth. His past government positions include Minister for Aviation, Special Minister of State, and Minister for Defense.

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addition, Australia supports a dual system of education which includes both government and non-government schools. Support for this dual system ensures that all children have access to a high quality education while allowing parents freedom of choice in schooling.

Changing economic circumstances within Australia and the region have been the catalyst for cooperation between the Australian, state, and territory governments to develop quality and excellence in Australian schools. The impact of this will shape and influence Australian schools well into the 21st century.

In looking to the future it is necessary to understand the educational standards that have prevailed in Australia in recent years, and the strategy of reform that has been implemented to ensure that Australians have the best possible education now and into the future.

In 1983 when the present federal government came to power, one major concern was the still extremely low number of students (36 percent) staying to the end of year 12, the final year of formal schooling for Australian students. This was well below other OECD nations and half that of some present at this forum today. This unacceptably low retention level existed at a time when the Australian economy needed major structural reform and a skilled and adaptable workforce. Raising participation levels was, therefore, of economic and social importance to the Australian government.

"...there was no commonality or national coherence on curriculum or assessment standards or on starting ages or even on handwriting and spelling. States developed curricula independent of each other — duplicating and wasting resources and creating differences which the nation could ill afford."

There were also fundamental and unnecessary differences between our state and territory school systems. For example, there was no commonality or national coherence on curriculum or assessment standards or on starting ages or even on handwriting and spelling. States developed curricula independent of each other — duplicating and wasting resources and creating differences which the nation could ill afford. In addition, teacher qualifications and salaries varied from employer to employer, frustrating mobility and promoting labor market inefficiencies.

Working cooperatively with the states and territories, the Australian government has achieved widespread reform in the schools area which has helped enhance the quality of education available to young Australians.

- First and most fundamental, better integration of school education with other areas of government economic and social policy and greater national cooperation in schooling has occurred, including security and stability in federal government funding for schools;

- Second, Australian education authorities have met and surpassed retention and participation targets — doubling school retention to year 12 the final year of formal schooling for Australian students, while maintaining and strengthening the focus on equity issues and better outcomes for disadvantaged groups;

- Third, improving articulation between school education and training and initial employment; and

- Fourth, providing information to the public on the condition of Australian schools — thus strengthening accountability.

Genuine national cooperation on schooling is a reform which will benefit Australian schools now and for the foreseeable future and will provide high education standards for the 21st century. This cooperative process is relatively new in Australia but has already resulted in:

- A statement of common and agreed national goals for schooling in Australia;

- Agreement to develop national curriculum statements in areas as diverse as — English, science, mathematics, languages other than English arts, technology, studies of society, and environment and health. Work in these areas builds on the best practice available throughout the country;

- Strengthening of annual reporting requirements by the provision of an annual national report on schooling which will inform the general public, policy makers and the government about achievements and directions of Australian schools;

- Establishing a curriculum corporation run by the school education authorities to produce curriculum materials for all Australian schools; and

- Establishing a National Project on the Quality of Teaching and Learning (NPQTL) to provide research and developmental support for award restructuring in teaching and to foster cooperative development of national education strategies.

This productive partnership has been significant not only in promoting change but also in providing a platform for informing debate on the direction of Australian education policy for the later part of this century.

The underlying premise in the development of this government's education policy is to value people as the country's primary asset. The present government is committed to expanding the national skills base by encouraging all Australians to take advantage of the education opportunities available to them.

Our business community has been most forthright in seeking higher standards. The head of the business council put it in these terms: "We cannot have a world class economy and a world class standard of living without a world class workforce. And we cannot have a world class workforce without a world class education."

Business groups have also sought better information about the outcomes of schooling. Teachers, parents, students, and the community need to know how well Australian schools are preparing our young people. The purpose of reporting is not to make pointless comparisons but to identify the problems in the education systems and how we can do better.

> *"I am convinced that if Australia is to improve learning outcomes, the country must have the best possible teachers. This is not simply a matter of teaching more information more often to more people."*

Significant developments in national reporting and teacher quality will shape Australia's future education standards. The national report on schooling in Australia, prepared through the Australian Education Council, which comprises commonwealth, state, and territory ministers of education, is a key development in providing readily accessible information on Australia's schools to the Australian community. The two reports — for 1989 and 1990 — are a mine of information on the achievements and directions of Australia's schools.

As the Australian experience grows in this area I would envisage the report containing information not just on what schools and systems are doing but, more importantly, on what this activity has achieved in terms of improved learning outcomes for students.

Subject profiles being developed in the key curriculum areas will also provide a basis for reporting on student achievement. This reporting is something which will be demanded not just by policy makers but by parents and taxpayers. Reporting on improved learning outcomes is not easy but it is an issue that Australia is addressing so as to ensure that the nation maintains the advances that have been made.

While a number of initiatives have been implemented in the areas of curriculum and assessment and national reporting on schools, the impact of these initiatives is felt most by the nation's teachers. It would be fair to say that the changes that have occurred and will continue to occur have and will affect almost all aspects of a teacher's work.

Teachers and the teaching profession have a crucial effect on learning outcomes and life chances of young people. Yet in Australia and in many other OECD countries teaching is regarded as a marginal profession.

Australia has become increasingly aware of the need to provide the opportunity for teachers to renew their knowledge of the disciplines they teach. I am convinced that if Australia is to improve learning outcomes, the country must have the best possible teachers. This is not simply a matter of teaching more information more often to more people. It is teaching differently, changing work organization, using teachers' skills selectively and effectively, to protect, value and maximize learning and teaching time. This is fundamental to education standards.

I cannot proclaim a single strategy to achieve this, but I think considerable progress will be made once we give full recognition to teaching. The high levels of skill, the complexity of the task and the shared dedication of teachers marks teaching out as a key profession. We should recognize this professionalism by entrusting to teachers the task of regulating their own profession.

One means of achieving this aim currently being considered in Australia is through the development of a national body which determines standards and promotes and recognizes achievement. Potentially this national self-regulation arrangement has numerous benefits such as greater freedom of movement between employers, a more systematic and fair approach to the recognition of qualifications, and related improvements in teacher training. All of these are integral elements in delivering quality education in the 21st century.

In addition, the articulation between the school, training, and higher education institutions is becoming an issue that the Australian government is addressing and which will influence education directions for young Australians. The issues being addressed are those related to providing students with flexible and diverse career paths. Work on the development of a common language and agreed outcomes and more defined pathways between education, training, and employment, while in its infancy, will impact on education in Australia significantly over the coming years.

> *"Education standards, not only in schools, but in other areas such as vocational education and training and higher education, will be the platform for a dynamic and viable nation...."*

School education is now firmly in the mainstream of the Australian government's economic and social policy and will continue to be so. Schools play a critical and central role in providing the foundation of a highly skilled, flexible and productive workforce and the basis for a well-informed and cohesive society. School education is not simply an economic or instrumental exercise but one which enriches the lives of all individuals.

Australia, like other APEC members, is entering an exciting period as it approaches the 21st century. Education standards, not only in schools, but in other areas such as vocational education and training and higher education, will be the platform for a dynamic and viable nation and one that can contribute significantly to the region and its role in the international arena. We will be reaching out to the region in pursuit of higher standards.

The University Mobility in Asia and the Pacific (UMAP) initiative, which will be considered later in the agenda, is one vehicle; it is Australia's view that we can and should learn from one another. We seek stronger relationships in education, as well as trade, between the members of APEC. We seek relationships based on mutual respect for mutual benefit. Higher standards for education is a valuable force for developing such relationships. We can build on the APEC forum. I commend our governments for bringing us together and look forward to enduring friendships from this meeting. We will have the opportunity to build on the initial work of the APEC Human Resource Development Working Group in this regard.

Discussion

The Minister was asked to describe in greater detail the relationship between education, training, and employment. He responded by stating that at the national level and in several of the states, vocational training is handled within the education system. This provides much better coordination than if it were treated as a separate entity. He also described a new agreement between the federal and state governments whereby all money currently spent on vocational education and training will go toward a national training authority. The federal government will make an additional contribution. Currently business is disappointed with the diversification of and lack of sufficient standards in vocational education. Although efforts to address these problems have just begun, they are geared toward providing the coordination needed to deal with a highly mobile workforce.

Another question asked whether giving teachers more regulatory control over their own profession, as mentioned by Minister Beazley, would hinder anticipated changes in the profession regarding the role of teachers and school management. Minister Beazley suggested that having one organization responsible for such areas would actually facilitate change much better than would having many different organizations. He added that the changes toward new systems of education will come much more smoothly if the impetus for those changes comes from within the teaching profession rather than being imposed from the outside.

BRUNEI DARUSSALAM

Abdul Aziz bin Umar, Minister of Education

Summary of Address

Mr. Aziz praised the Ministerial Conference because it pays attention not only to raising levels of educational achievement, but also to developing well-rounded adults. While scientific and technical knowledge will be of increased importance in the future, efforts in this area must be tempered by several considerations, including the need to maintain human values, the possible negative impact of progress on the environment and the danger of the results of a "knowledge explosion" being used for destructive purposes. Steps must be taken to ensure that students do not become "robots" or "mere assembly line products." While addressing these concerns will require an international effort, such an effort must take into account differences among the nations. Students will have to be able to respond to change, yet remain true to traditional religious and cultural values. All of these changes will be contingent upon raising the status of the teaching profession, improving teaching methods and teacher training, and monitoring educational outcomes. In closing, Mr. Aziz expressed his hope that APEC's educational efforts not be duplications of existing efforts, but rather "ideas and initiatives which are unlikely to be available from any other source."

Address

Mr. Chairman, Your Excellencies, Distinguished Delegates, Ladies and Gentlemen, it is both an honor and a privilege for me to express on behalf of the Brunei Darussalam Delegation, through you, Mr. Chairman, my sincere thanks and congratulations to the Government of the United States of America, for successfully convening this APEC Education Ministerial. May I also express our appreciation for the kind hospitality accorded to us during our stay here.

It is a pleasure for me to be here together with delegates of APEC member countries in order to share thoughts and formulate strategies in connection with a topic which must be of vital concern to all of us, that is, "Education Standards for the 21st Century." Indeed, standards of all vocations and occupations in the workplace of the coming century will be underpinned by and dependent upon standards in education. It is imperative for us to remember this and to be aware of the importance of our role as educational planners for the next millennium.

Even though Brunei Darussalam as a nation is small in terms of both area and population, its recognition of the global need to combat illiteracy and to make educational opportunities available

Prior to his current post as Minister of Education, Minister Aziz also served as Minister of Communications and Minister of Education and Health. Before Brunei gained its independence in 1984, Minister Aziz served as Chief Minister. He attended Sir Omar Ali Saifuddin College in Brunei.

to all is as strong as that of larger nations. It also believes that the target of operationalizing the concept of Education For All by the year 2000 is both appropriate and laudable. However, at this point I feel the need to voice concern regarding the lack of support and participation of developed nations in the Education For All concept. Notwithstanding the fact that such nations have given this concept their verbal support and urged its implementation, so far such utterances have not been accompanied by the actions and active participation which will help to make it a reality. Unless such verbal support is matched by action, there is a real danger that the target will remain beyond attainment.

This Ministerial Conference is attempting to go one step further than merely seeking excellence and relevance in educational endeavor. It is also concerned with enhancing both the performance and personality development of young people in order to meet societal needs and to prepare those young people to lead fulfilling lives in the coming century as well as meeting its challenges.

> *"...care will have to be taken to ensure that our young people will enter the world of work as rational and logically thinking human beings and not as mere robots or assembly line products."*

However, to do so, we need to take into account current phenomena which have both positive and negative effects. They include the following: the so-called "knowledge explosion," especially in the fields of science and technology, and the fact that such knowledge may be utilized not only for beneficial but also for destructive purposes; population explosion; the quest for a better quality of life arising from the higher expectations of a new generation; problems linked to degradation of the environment; and last but not least, the crisis of human values which is so often the price paid for material development. Education for the 21st century must face up to all these challenges, and although they need to be met with a common front by all nations, such efforts must also recognize the very real socio-cultural differences and diversities among nations.

Referring back for a minute to the technological field, it is pertinent to note that comparatively advanced forms of technology, micro-electronics, bio-technology and information systems are even now, in many developed countries, becoming obsolete and being replaced. Specialized manpower is thus needed for these fields to ensure the generation, maintenance, and growth of such systems.

Brunei Darussalam is therefore aware that to ensure standards among such a specialized workforce, science and technology will have to assume greater prominence in the total educational program, and much thought will have to go into the formulation of appropriate curricula. In doing so, care will have to be taken to ensure that our young people will enter the world of work as rational and logically thinking human beings and not as mere robots or assembly line products.

Such a curriculum, we believe, should seek to develop citizens who are able to participate fully in the social choices facing a technical society. To do so they will have to be knowledgeable and adept in making rational judgments regarding social choices and options. Their education should prepare them to be adaptable in responding to change, and yet with a respect for proven values to ensure stability and continuity. As an Islamic society which has, we believe, its own cultural identity, the education we wish to provide is based on values, both religious and cultural, which we believe to be enduring and valuable, not only for this life but also for the hereafter.

We also believe that the curricula for the 21st century must address issues affecting local, national, and international imperatives. The themes of such curricula should include science and technology, environmental education and society, cultural heritage and awareness, information systems and processing, and education based on religious and moral values. In order to reach the levels of attainment and standards which will be required, careful thought will have to go into quantifying the amount of time to be devoted to the science and technology curriculum. Indeed, to enable these subjects to be given a greater share of the allotted time will necessitate governmental will and a major reform in the educational program, for achieving functional literacy and numeracy for a majority of school age children still remains a priority of many educational systems.

> *"Just as any discussion of standards in the world of work leads inexorably back to education, so any discussion of standards in education must in turn focus on the teachers who are to deliver it. If there is going to be quality in education, there has to be quality instruction."*

How can such a comparatively radical program be implemented? Instructional packages and teaching models and methodologies will have to be explored to determine which ones can effectively deliver the instruction appropriate for each of the goals set earlier. Benchmark testing will have to be formulated at set stages of the educational process in order to monitor standards of attainment and the effectiveness of the delivery methods. Recently researched cognitive and learning theory will have to be deployed in the formulation of the new curricula. All these need our close attention if we are to actualize our concern with standards.

Just as any discussion of standards in the world of work leads inexorably back to education, so any discussion of standards in education must in turn be focused on the teachers who are to deliver it. If there is going to be quality in education, there has to be quality instruction. Brunei Darussalam perceives one of the challenges of the future to be the upgrading of the status of the teaching profession by making classroom teaching an attractive proposition comparable to other professional career paths in government service. The teachers on whom our future students will depend will have to be creative and innovative. Apart from a comprehensive breadth of knowledge of their chosen disciplines, they will need most, if not all, of the following skills: firstly, analytical and problem solving skills; secondly, technical, research and mathematical skills; thirdly, interpersonal and communication skills; fourthly, counseling and evaluation skills; and fifthly, effective managerial skills. To achieve excellence in education which in effect means high standards, there must be excellent teachers. To deploy excellent teachers, we must attract good students into the profession. To transform these good students into excellent teachers, we need to provide an effective training model in teacher education programs. Reforms in teacher training will have to be explored as a major agenda by Brunei Darussalam and perhaps by other countries.

Ladies and gentlemen, in discussing the topic "Education Standards for the 21st Century" and our preoccupation with it in Brunei Darussalam, I have touched briefly on goals, curricula, instructional process and on teachers. These topics lead us inevitably to the products of the system, the students. Here, may I mention that whereas other larger countries will be numbering their students in the hundreds of thousands, if not millions, Brunei Darussalam's small population base means that I am talking about much smaller numbers. Our limited manpower resources make it all the more important that there should be as little wastage as possible, for our country can ill-afford to allow its valuable human resources to become unproductive for whatever reason. Brunei Darussalam believes that this very high priority of maximizing and optimizing potential in education can best be achieved by building into the system a strong emphasis on the nation's history, religion, and culture, for this, it seems to us, is the way toward generating a loyal, spiritually enriched, committed, skillful and productive citizenry who are technologically oriented and at the same time imbued with Islamic values.

> *"Brunei Darussalam believes that this very high priority of maximizing and optimizing potential in education can best be achieved by building into the system a strong emphasis on the nation's history, religion, and culture...."*

I would like to reaffirm Brunei Darussalam's desire that there should be mutual understanding and sustained cooperation in education among APEC members, and also my country's belief that such cooperation cannot but be of benefit to all concerned. At the same time given the constraints of human and other resources as well as the existence of other regional efforts in this field, Brunei Darussalam believes that APEC's initiatives in education should be determined by its ability to complement, rather than duplicate, existing efforts. There should be linkages with regional organizations and formulation of strategic ways of using available resources. Brunei Darussalam's participation in future initiatives will be determined by an awareness of these factors. From APEC we seek ideas and initiatives which are unlikely to be available from any other source.

Mr. Chairman, it remains only for me to extend my sincere thanks to you and all distinguished delegates for the kind attention you have afforded me, and also to reaffirm Brunei Darussalam's support (in principle) for the goals and objectives which have brought us together for this APEC Education Ministerial. Thank you.

CANADA

Anita Hagen, Deputy Premier, Minister of Education and Minister Responsible for Multiculturalism and Human Rights, Province of British Columbia

Summary of Address

Deputy Premier Hagen stated that Canada emphasizes education as a lifelong process. Education should not be looked at as a process with a definite point of completion, but rather as a means of responding to constantly changing needs in a person's life. Education standards and measures must take into consideration the diverse backgrounds and circumstances of the learners. She warned that outcome measures that are seen as competitive rankings can be misleading and can become ends in themselves, as opposed to the tools for improvement they are supposed to be. She discussed a collaborative effort of provinces and territories that seeks to measure achievement in basic skills by using a profile of student achievement, rather than a single, rigid indicator. In addition to such collaborative projects within Canada, the Deputy Premier listed several international projects being undertaken by Canada and by her home province.

Address

The members of the Canadian delegation express their appreciation for the initiative taken by the United States of America to bring us together today. As British Columbia's Deputy Premier, Minister of Education, and Minister responsible for Multiculturalism and Human Rights, I am very pleased to represent Canada at this important meeting. I bring greetings to you from the Ministers of Education of each province and territory of Canada.

For Canada this meeting represents a further welcome step along the road of educational cooperation linking us to the nations represented here. Let me affirm at the outset that this meeting is indeed timely. This is a challenging period for education in every country on earth. In Canada, as in other countries, the rate of change is challenging the capacity of education systems to meet their complex mandates. Massive social and economic transformations are generating a marked lack of consensus as to what should be the goals and objectives of our school systems. We find mounting pressure for assurances that what is being offered to our learners will meet their diverse needs, including the need to prepare them for a fulfilling personal, social, and cultural life; the need to prepare them for making their contribution to a productive society in the global context; and the need to prepare them for the rights and obligations of citizenship.

Deputy Premier Hagen is a Member of the Legislative Assembly for New Westminster and sits on the Council of Ministers of Education, Canada (CMEC), which is comprised of the Ministers of Education from each of the 10 provinces and two territories. Before being elected to the Legislative Assembly in 1986, she was director of the Seniors' Bureau and also served as a school trustee in New Westminster. She attended Dalhousie University in Halifax, Nova Scotia.

In this context Canadians believe that education is the key to both social and economic progress. It is constantly necessary to find ways to improve our systems of education to ensure that they meet the expectations of a complex and increasingly diverse society.

One of the lessons we have learned is that we must support and foster a culture of lifelong learners. No longer can we assume that there is a moment in time when a person's education ends and he or she becomes, in any final sense, ready for adult life and work. We require a shift in policy and attitudes to support people's needs for ongoing learning and education as life evolves for them. If we can accomplish this, then our citizens will be better able to create for us a society with a strong and sustainable economy where people live in harmony.

> *"No longer can we assume that there is a moment in time when a person's education ends and he or she becomes, in any final sense, ready for adult life and work."*

In Canada our increasingly diverse school systems now embrace children from around the world, from various cultures within our country, and children with a wide range of abilities and disabilities. Indeed many of our schools now enroll adults who wish to complete their schooling. Today's students know that they will inherit the economic, political, social, and environmental legacies of our generation. Therefore as educators we must help young people to develop a sense of purpose and strong personal values in a diverse, truly multicultural world.

To carry out our responsibilities for providing the best education possible, we need to reflect upon what goals we have set for our students and how well we are doing to reach those objectives. It is clear that within the social context I have described there can be no one vision of an acceptable outcome. When we serve a diverse group of people we must be willing to plan for diversity of outcomes. Yet, policy makers, the stewards entrusted with the education of our population, want to know — and indeed have the responsibility to demonstrate to the public — the effectiveness of their policies and programs, and of the system as a whole. We have before us new opportunities and challenges to explore in depth how well our education systems function.

As we reflect on the theme of education standards for the 21st century, our mandate is to find ways of using communications and new knowledge about learning to explore the issues of accountability in a spirit which recognizes the challenges of diversity.

As we work cooperatively on these themes here today, I am pleased to report that in Canada our provinces and territories are already working constructively together. Through joint work organized by the Council of Ministers of Education, Canada, we have agreed that for us, testing, evaluation, assessment, and setting standards are processes, rather than ends in themselves. The objective is not to set an arbitrary standard and determine who can attain it, but rather to use these processes and results of evaluations as tools for constant reexamination and improvement of the education system.

This is an important concept and I would like to highlight it through an example. In Canada, provinces and territories have recently worked together collaboratively to develop a measure of educational achievement. The school achievement indicators program will provide information on reading, writing, and mathematics skills for Canadian 13- and 16-year-old students. Through a long but valuable process, we worked together to move away from a single measure to an assessment system that establishes a profile of student achievement. This allows for flexibility within each jurisdiction. A framework will be developed to allow the inclusion of additional student sample groups to accommodate the different interests of each province and territory. In this way each participating province gathers information to modify its education system as it deems necessary in the interests of children. We will make our schools responsive to local needs rather than simply rank our students against others.

"We will make our schools responsive to local needs rather than simply rank our students against others."

This example is relevant at this conference because it highlights our recognition that each APEC nation is free to determine its own standards within its own particular situation and culture. We also have learned from our experience the need for careful interpretation of comparative data on education standards. When jurisdictions are simply ranked numerically, results emphasize individual differences. Yet often jurisdictions' results are not statistically different and when "clustered" together, the gaps between performance levels disappear. In other words, competitive ranking can be misleading. Again, the opportunity for growth through process is lost to raw comparisons. This is a point for careful consideration at this conference focused upon educational standards.

Our discussion of standards cannot be complete until we consider what we must do to achieve constantly improving systems of education within our own jurisdictions. Many areas within Canada are engaged in educational reform to meet the needs of the 21st century. In my province of British Columbia we have undertaken a major education reform program which sets standards within the context of community needs. Our education reform responds to the wishes of the people and provides for continuous learning. It stresses individual learning, critical thinking, cooperative effort, flexibility, and adaptability. We are developing a system to recognize progress along a continuum of lifelong learning. Put simply, we are establishing benchmarks, check points along a learning highway.

We are working hard to provide continuous, individualized progress while responding to community demands for standards and accountability.

There is still much to be done and in recognizing the global nature of our work we are very pleased to be at this conference. We believe in effective partnerships, learning with and from one another. In Canada we are committed to working with communities, parents, volunteer organizations, business, industry, and labor.

We apply the same principles of cooperation and collaboration at the international level. For example:

- Canada is an active associate member of the South East Asian Ministers of Education Organization.
- Canada has established the Asia Pacific Foundation to develop strong economic and social links across the Pacific.
- The University of British Columbia is a member of the Pacific Circle Consortium.
- Canada is involved in the work of the OECD to consider cooperative activities.
- We participate in programs organized by UNESCO where we have other opportunities to meet our colleagues in the Asia Pacific Region.
- In my own province, British Columbia has established the highly successful Pacific Rim Education Initiatives. As a result of this education program I am proud to say that British Columbia students and teachers have personally visited and learned in every country represented here today.

Mr. Secretary, members of the Canadian Delegation look forward to expanding on these matters with other participants during this conference. We look forward to working cooperatively with you — our neighbors and partners from around the Pacific rim, in areas of mutual interest.

Discussion

The question was asked whether the funding for adult education is the responsibility of the community or the individual. Deputy Premier Hagen responded by saying that while there is no set policy in British Columbia, different types of delivery systems are available. Up to the grade 12 standard, anyone can receive an education at no cost either at a public school or, in some cases, learning centers which have extended hours of operation. If they attend a community college, then the students themselves pay. Currently, the establishment of a secondary school exit standard is being considered. In this matter one area of concern is the fact that while education to the grade 12 standard is provided free, not all citizens achieve that level. Another concern is that many adults who desire educational opportunities to increase their job possibilities cannot afford to pay for them because they are not working.

Secretary Alexander added that in the United States, President Bush has suggested a lifetime learning line of credit, which would be available to adults for the purposes of furthering their education.

PEOPLE'S REPUBLIC OF CHINA

Teng Teng, Vice Chairman, State Education Commission

Summary of Address

Vice Chairman Teng stated that two major educational considerations for populous developing societies such as his own in facing the 21st century should be quality standards, which assure that education adequately prepares the students for the future, and quantity standards, which seek to educate as many school-age children as possible. He mentioned three basic quality standards which are held to be important in the People's Republic of China. First, education must provide a firm moral and cultural foundation for its students so that they may contribute toward the welfare of society in general, rather than economic and technological expansion alone. Second, education must emphasize the wholeness of knowledge and seek to integrate different fields, rather than treat them as "unconnected pieces." Finally, high quality teaching materials must be developed, allowing rural areas to develop appropriate material for understanding life in that region. Pointing out that the State Education Commission has already experienced great success in increasing rates of participation and literacy, he outlined three major educational strategies for the future: (1) a comprehensive reform of rural education that pays more attention to the specific needs of rural areas, in which 80 percent of the population live; (2) an effort to improve the quality of teacher education and increase the number of teachers; and (3) a continued emphasis on international exchange.

Address

It is a very significant event, I believe, that President Bush proposed, at a time today when the approaching footsteps of the 21st century can be clearly heard, the convening of this education ministerial to which the Ministers of Education of all APEC members have been invited to discuss the theme of "Education Standards for the 21st Century." The convening of this conference, its declaration to be passed, and its post activities will definitely promote education in the Asian-Pacific region, and generate positive effects on the advancement of education, especially educational development at primary and secondary levels.

The contents of the standards for the 21st century, I believe, to such populous developing countries like China, should include two aspects: (1) quality standards, and (2) quantity standards, which means efforts should be made to offer necessary basic education nationwide to every school-age child who is able to receive education.

Vice Chairman Teng was appointed to his current position in 1989. Prior to that he served as Vice President of the Chinese Academy of Sciences, President of the University of Science and Technology of China and Vice Chairman of the State Science and Technology Commission. Currently, he is also the Vice Chairman of the Executive Committee of UNESCO. He was educated at Shanghai Jiaotong University and Tsinghua University.

Ladies and gentlemen, it is probably in your interest to find out how China, a developing socialist country whose population boasts one fifth of the world's total, will meet the challenges of the 21st century. In the following, I will give a brief statement in regard to this issue.

In order to define education standards for the 21st century, it is first of all necessary to analyze the characteristics of the new century and the strategic tasks faced by each APEC member. The 21st century is a complex and changeable century that will see an accelerating development of science and technology, a more heated economic competition which indeed requires interdependence and challenges for the human race to better ourselves. Sterner than ever will be the challenges faced by education which will become the strategic key for all countries and regions to their economic and the social development, and to their equal stand in the world. Whoever holds the key to education in the 21st century will be in a strategically advantageous position in the new century.

"...we hold that it is becoming more and more important to improve ideological and moral education of students as the economic development progresses and the level of people's material life rises...the new generation of the 21st century must learn first how to conduct the:..selves before they can contribute."

Throughout the course of realizing the strategic goal of modernization, we are committed to continuously placing education in a strategic position of priority in development, for the economic development largely depends on advancement of science and technology and the continued improvement of workers' quality. The strategy of education development is always an integral part of our country's all-around development strategy and important to the realization of our national strategic goal.

In the next century, our strategic goal will not only require that the scope of education suits the needs of economic construction and social development, and enable all school-age children to receive nine-year compulsory education, but more importantly will raise the educational quality to a new level. Such quality standards should at least include the following contents.

First, education should provide an ideological basis on which our young are educated morally and culturally to become a new generation with ideals, discipline, and love for their motherland. They should have a sense of devotion to and work hard for the development of their country and region and the welfare of the people, and have the scientific spirit to search for truth, to think independently, and to dare to create. Seeing the social problems that have already occurred in some developed countries, we hold that it is becoming more and more important to improve ideological and moral education of students as the economic development progresses and the level of people's material life rises. Under such circumstances, the new generation of the 21st century must learn first how to conduct themselves before they can contribute. As one of the finest countries in the East, the tradition of Chinese culture advocates that "every man has a share of responsibility for the fate of his country." Therefore, intellectuals should have the social responsibility of "showing concern for others and enjoying life after." We should introduce to our young people such ideology and the virtue of "taking from the society and contributing back to it." The advancement of economy and science and technology must never be done at the expense of social and public virtue.

> *"...we should first stress an education which attends to the integrity of knowledge, and to the cultivation of students' ability to use and integrate knowledge of various fields in solving problems."*

Second, education and teaching should stress the integrity or wholeness of knowledge, and develop the ability to integrate knowledge of various fields in operation of solving concrete problems. Science and technology in the 21st century will not only develop at a faster pace, but will also demonstrate its integrated wholeness. This trend requires us to change the current tendency to break up teaching contents and subjects into unconnected pieces as if there were no relation between various fields of study. Therefore, we should first stress an education which attends to the integrity of knowledge and to the cultivation of students' ability to use and integrate knowledge of various fields in solving problems. Second, change the "staffing" or "the spoon feeding way" of teaching, and let our students learn vigorously on their own initiative. Third, let our school children learn some computer knowledge and skills at an early stage. And fourth, pay attention to education of natural sciences; keep on improving the teaching of the core subjects, such as the Chinese language and mathematics, while taking care of the non-core subjects, such as music, art, and physical education, as well as health, interpersonal relationships and life environment, and so on. All of these together will lay a good foundation for our school children to foster noble values, grow up sound in body and mind, and develop themselves in an all-around way. For this purpose, our country has established two special councils: the Science and Technology Education Council and an Arts Education Council, as consulting organizations through which the State Education Commission guides the nation in science and technology education and art education.

Third, high quality teaching materials are to be prepared. Teaching materials should reflect those fine civilizations and achievements created by the human race, and the new developments in culture and science and technology in the contemporary era. Under the requirement that they follow some uniform basics, the materials are to be diversified. It is recommended that various local districts and regions compile their own materials that suit their varied needs; and schools in rural areas may even compile some localized materials which will enable students to learn about their regional history, natural economy and geography, and to master certain skills necessary for rural life and production.

We are confident of realizing the above goals. Such confidence is based upon the successes and experiences already attained. Back in 1949 when new China was just founded, the enrollment rate of school-age children in the nation was only 20 percent, while the illiteracy rate was over 80 percent of the total population. Today, 43 years after, 98 percent of our school-age children are enrolled in schools, and the illiteracy rate is down to 16 percent.

Ladies and gentlemen, though the education cause of China has already achieved great successes, there are still many difficulties in our way to the realization of our goals which we set to meet the challenges of the 21st century. By analyzing these difficulties and summarizing our past experiences we have put forward certain strategic schemes; the major ones are described as follows:

> *"...this will allow our rural area schools to gradually become the base where culture, science, knowledge and skills are taught and learned."*

- First, comprehensive rural education reform. Eighty percent of China's population is in the rural areas where lie the education difficulties and the focal point. In recent years, we have explored a new path of educational development in the rural areas which is not the same as that in the cities. Briefly, the path is to carry out in the rural area the comprehensive reform of "the combining of agriculture, science and education," and "planning the three kinds of education together," that is, the county and the township governments will be responsible for the planning of basic education, vocational and technical education, and adult and continuing education (the so—called three kinds of education), and develop them in a coordinated way. Such is the coordinated planning that combines the development of cultural education for the country youth with the development of local economy and proliferation of practical technologies. And this will allow our rural-area schools to gradually become the base where culture, science, knowledge, and skills are taught and learned. The result of this is that in the rural areas both the cadres and the farmers are actively motivated to donate money for schools and support in many ways the development of education. It has also greatly enhanced the consciousness of the country youth in their pursuit of science and cultural knowledge.

- Secondly, continue to strengthen the quality of teacher education and the building of a large number of teachers. The nation's progress depends on education whose development, in turn, depends on the quality of teachers. We have set up a teacher-training network with four levels — national, provincial or municipal, county, and township—which will enable us to improve the quality of teachers. To attract the top high school graduates to attend teachers colleges and schools, we have also made special policies such as increases of categorical scholarships for students going to teachers colleges, exemption of tuition and fees for them, and so on. On the other hand, the policy demands many teachers' salaries be set according to the characteristics of educational work, and the treatment of teachers be raised step-by-step to a relatively high level among the 12 trades in the national economy. Teacher's Day has been established and efforts have been made to promote the award system for teachers so as to customize a good practice in the society to respect the teacher and value education.

- Thirdly, continue to practice the basic line of reform and open-door policy, further enhance international exchanges and cooperation in education, draw from all civilization and achievements made by the whole human race, and learn from all experiences in educational development and administration which reflect the demands of the modern socialized mode of mass production.

Mr. Chairperson, ladies and gentlemen, we hope sincerely and eagerly to increase cooperation and exchanges with all countries and regions, especially the APEC members and the related international as well as regional organizations, and will work hard to achieve high education standards for the 21st century. Thank you.

Discussion

In response to a question about rural education, Vice Chairman Teng discussed the failure of previous attempts to transfer an urban education system to rural areas. Parents objected to the lack of practical knowledge and skills training in the curriculum. As a response, experiments were begun in several rural areas. With the curriculum more in tune with the needs of rural life, the parents were much more enthusiastic and supportive of the schools.

HONG KONG

John Chan Cho-chak, Secretary for Education and Manpower

Summary of Address

Secretary Chan noted that while Hong Kong will become a Special Administrative Region of the People's Republic of China, it will still have to rely mainly on the "knowledge, skills and entrepreneurial spirit" of its people to succeed. In addition to these qualities, adaptability will become increasingly important as the world continues to become more interdependent and technically advanced. To meet these needs, Hong Kong will continue its strong support of education. In the past 30 years, the government has expanded educational opportunities to the point that almost all goals of participation in the education system have been reached and where education is the largest single component of the government's annually recurrent expenditure. In discussing standards of quality, Secretary Chan mentioned two important considerations: mass education should be balanced with individual development, and attention to national culture and values should not overshadow the international dimension. Secretary Chan outlined three strategies the government has developed to raise education standards. These are to move toward a student-centered education, to improve the quality of educational management and increase individual initiative by moving decision-making to the school level, and to strengthen the teaching profession.

Address

Thank you Mr. Chairman, Honorable Ministers, ladies and gentlemen. May I first of all thank the United States Government for hosting this meeting and the 1992 Education Symposium. I'd also like to thank the organizers for all the preparations they have made within a very tight time schedule. In particular, the excellent documentation they have put together will no doubt help focus our minds and facilitate our discussions.

Today we are addressing education standards for the 21st century. I hope we're not 3,000 years too late. In any case, none of us can help the fact that we weren't born at that time. But certainly we're doing this not a moment too soon. In Hong Kong's case, our children who enter the first year of primary education next month are required by law to complete nine years of free and compulsory education and they will remain in school until the summer of 2001. Only 5 percent of this cohort will then leave formal education for employment. The other 95 percent will continue with their education in heavily subsidized places in grammar or technical schools, graduating in 2003. Thereafter, about

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Secretary Chan was born in Hong Kong and graduated from the University of Hong Kong with a B.A. and a diploma in Management Studies. He joined the civil service in 1964 and has served in numerous government positions, including Secretary for Trade and Industry, Deputy Chief Secretary, and Director of Information Services. He became Secretary for Education and Manpower in 1991.

40 percent of the cohort will pursue advanced-level studies, equivalent to grades 12 and 13, or sub-degree studies until at least 2005. Three-quarters of those who pass the advance level examination will be able to undertake tertiary level education and come out with first degrees between 2007 and 2010. So clearly the education we provide today must prepare our students for life and work in the 21st century.

Now before the next century begins, Hong Kong will have gone through a major constitutional change and become a Special Administrative Region of the People's Republic of China. But, under the terms of the Sino-British Joint Declaration and of the Basic Law for the future Hong Kong SAR, Hong Kong's systems and lifestyles will remain basically unchanged. The factors that have contributed to Hong Kong's stability and prosperity — the factors that have made Hong Kong, among other things, one of the world's 10 largest trading economies, a leading financial center and a major tourist attraction — will remain in place. Hong Kong can be expected to maintain its dynamic, go-getting environment, engendered by a free market capitalist system, low taxation, and minimal intervention by government in economic activities. Above all, nothing is going to change the fact that Hong Kong is devoid of natural resources, that Hong Kong has to rely principally on the knowledge, skills and entrepreneurial spirit of its people to survive and to prosper.

At the international level, the world is becoming increasingly interdependent and technologically advanced. The trend can only go on. Increased trade and investment flows and greater mobility of the workforce will ensure that it goes on. The situation will call for new knowledge, skills and attitudes. In particular, it will require from our workforce a greater flexibility of skills which can be, as they will have to be, continuously adapted and built upon to meet our social and economic needs.

> *"Hong Kong's future must lie in improving the quality of education that we provide. This will have to be achieved through setting appropriate standards."*

All these developments place special demands upon the education system of Hong Kong. We will continue to allocate substantial resources to educating our youth. Already education is the largest single component of my government's annually recurrent expenditure, accounting for 17 percent of the total. We have spent the last 30 years trying to cope with the demand for quantity. We have responded to that demand by a massive expansion of educational opportunities for all, in all sectors and at all levels. We have moved as quickly as we could toward providing basic education to all and further education to those capable of benefitting from it. We have now all but achieved our quantitative targets of provision. Hong Kong's future must lie in improving the quality of education that we provide. This will have to be achieved primarily through setting appropriate standards.

But what standards should we set in order to ensure continued success in the 21st century? Most of our constituents will answer in simplistic terms. They want more and they want better. It is only natural that as parents we all want our children to be better than ourselves. It is also natural that all communities wish to see social and economic progress, leading to higher standards of living and a better quality of life. But, as policy makers and administrators, we need to translate "more" and "better" into concrete, tangible, and measurable standards and targets. This is not always easy because there are difficult balances to be struck. To start with, "more" and "better" are themselves two sides of the balance in many ways. We need to balance mass education with individual development. Furthermore, while education standards in any society must be closely related to its own culture, values and aspirations, the world is certainly getting smaller and more integrated. In setting our own standards, we must not lose sight of the international dimension.

> *"In setting our own standards, we must not lose sight of the international dimension."*

Over the past three years, Hong Kong has drawn up a series of plans to raise education standards. I do not wish to go into details today, but let me outline briefly the broad strategic directions of some of these improvements.

First, we are moving toward more student-centered education. The intention is to move away from traditional "chalk and talk" to a task-based approach which is more closely tailored to the individual abilities and needs of students. A start has been made with introducing learning targets and developing associated assessments to measure individual progress and help address individual needs. My colleague, Dr. John Clark, had the opportunity to explain at yesterday's symposium what we're doing.

Secondly, we are seeking to improve the quality of educational management. Hong Kong has a highly centralized system for administering schools. This was made necessary by the fact that most of our schools are run by voluntary bodies, but heavily supported by public funding. The extent of government control has tended to stifle individual initiative on the part of school principals. We are now devolving decision making to school managements, but accompanied by greater accountability on their part.

Thirdly, we are trying to ensure that we have adequate human resources for education — adequate in terms of quality as well as quantity. Even with modern technology, the most crucial input into the education system is still the teacher. Whether our quest for higher standards will succeed must depend upon our having a dedicated, well-qualified, and well-motivated teaching force. A comprehensive plan has been drawn up to strengthen teacher preparation and development, promote greater professionalism, and introduce graduate teachers into primary schools.

I've spoken earlier of the increasing international context in which we all operate. Nowhere is this development felt more keenly than in Hong Kong. I welcome closer cooperation with friends and neighbors in the fast-growing Asia Pacific region and the opportunity to learn from them. This meeting is an excellent start. Hong Kong supports the proposal to set-up an APEC Education Forum to further explore prospects for further collaboration. I suggest that this might cover such areas as education research, comparative studies, and exchange of information, exchange of staff and students, as well as transfer of academic credits across national or territorial boundaries.

Mr. Chairman, I look forward to mutually beneficial exchanges with other APEC participants at this meeting and in the months and years ahead.

Discussion

In reference to Secretary Chan's remarks about Hong Kong's need for a flexible and adaptable workforce, the question was asked as to who identifies which skills are needed and who provides the training. The Secretary replied that because of Hong Kong's small size, the government and the private sector work quite closely together, making it difficult to say who specifically determines which skills will be necessary. As southern China expands economically, much of the manufacturing work that used to be done in Hong Kong is now being done there. Those manufacturing jobs are being replaced by service-related jobs in Hong Kong, creating a great need to retrain workers. The government and industry are working closely together to meet this need.

INDONESIA

Fuad Hassan, Minister of Education and Culture

Summary of Address

Minister Hassan stated that while a discussion of education standards is typically seen as only concerning institutions, education itself takes place in school, at home, and in society. In school, the other environments cannot be ignored; education cannot be value-free. Thus in Indonesia, the school curriculum is divided into two parts: the national content, which is centrally standardized, and the local content, which deals with the student's natural and cultural environment. Minister Hassan also outlined several educational policy considerations important to Indonesia. One is the expansion of education to enroll more children in school and to increase the required years of schooling. The government recently decided to expand the length of basic education from six years to nine years . Another important consideration is that while modernization places certain requirements on a society and its education system, that society must also preserve its values and identity. A society must also be aware of the potential dangers posed by scientific and technological progress and be ready to deal with the impact of globalization on national identity. Minister Hassan concluded his address by re-emphasizing the need to recognize differences between nations brought about by different levels of development and the desire to preserve one's own culture.

Address

It is a distinct pleasure indeed for me to be present here and participate in the APEC Ministerial from which I would like to learn from colleagues and friends.

Mr. Chairman, although we all constitute one common humanity, living in what we feel subjectively as a continuously shrinking world, we have necessarily different perspectives in viewing the educational standards of our schools for the coming 21st century. These differences in perspective are due to differences in geographical location of our respective countries; differences in natural environment; differences in religious beliefs, national ideologies and levels of economic and technological development, and the age and stage of the development of the present education system; differences in our historical past; and differences with respect to other factors which have contributed to the shaping of our minds.

Minister Hassan was born in Semarang (Central Java). He pursued postgraduate studies in psychology and social philosophy at the University of Toronto and holds a Ph.D. in psychology from the University of Indonesia. Before becoming Minister of Education and Culture in 1985, he held various academic and government positions, including Ambassador to Egypt and head of the Agency for Research and Development of the Department of Foreign Affairs.

We may perhaps differ significantly in the value we attach to standards of excellence of our education. What educators and other opinion makers here in the United States, for instance, value most highly with respect to education standards need not necessarily be given the highest value in my country or in some other countries, and the reverse also holds true.

We, ourselves, are of course willing to listen to other ideas and are thankful to improve and to correct our own thinking concerning education standards after participating in this ministerial. One of the most pressing problems in developing countries is the rising demand not only for better education, but moreover for the expansion of opportunities to obtain education. In this connection, education tends to be perceived as mainly being the responsibility of institutionalized education, namely, schools, colleges, academies, and universities, which are to a large extent nationally standardized and universally patterned. Such a perception is not a serious deviation of the word, but certainly implies a distortion of the content and extent of what education actually encompasses.

> *"One of the most pressing problems in developing countries is the rising demand not only for better education, but moreover for the expansion of opportunities to obtain education."*

I think that it is not difficult for us to agree that there are three environments of education where education takes place, namely, the home environment, the school, and the social environment. These three environments may be initially visualized as three concentric circles beginning with the home environment, but in the course of the child's development or the young adolescent, I'd like to think of a triangle, each corner of which represents a field of forces with educational impact on the child, namely, the home environment, the school environment, and the social environment concurrently having an impact on the child's development.

Another effect that tends to be overlooked is that if we talk about education, education should include also adult education. In other words, with this too in mind, Mr. Chairman, I would like to continue my comments and especially with regard to the first, I would like to concentrate on how to integrate education as an effort of the three realms of education, namely, the home, the school, and the social environment of the child.

We cannot think of the child being imposed by whatever educational measures by the family or by the home environment and the school and not take into account the exposure of the child to what he socially experiences. Thus, while we are discussing problems of present day education in our respective countries, actually, we are mainly dealing with issues pertaining to the more formal and institutionalized structures for providing various strata of education.

Education, Mr. Chairman, I think in the broad sense should be understood as an undertaking that implies an orientation toward values. Value-free education is not only absurd, but just non-existent. This should be the starting point in dealing with the challenge confronted by educational policy makers also entering the 21st century.

Consequently, formal or institutionalized education cannot entirely be detached from its relevant cultural matrix. So in designing a curriculum for our schools, this dimension cannot be overlooked. Consequent to this basic viewpoint, we in Indonesia designed our school curriculum — in accordance with the Law of our National Education System — consisting of two categories of content, namely, the national content and is centrally designed and centrally administered which essentially will provide our pupils with capabilities for trans-regional mobility, and secondly, the local content of the curriculum, which is limited to a maximum of about 20 percent. This content varies region-wise and is oriented toward the natural and cultural characteristics of the school environment and is meant to maintain the pupils' linkage with and interest in their characteristic natural and cultural environment and not to alienate them instead.

> *"In Indonesia, national education standards, including standards for the 21st century, are closely linked to our national education goals..."*

There are, of course, various knowledge skills that cannot be neglected and are universally accepted as part of the effort toward the mastery of basic knowledge and skills and here we put the emphasis on the mastery of the three Rs on the elementary school level to the degree that they may function in everyday practical and social interaction and this is also important we find for the further mastery of more knowledge and skills, as well as for the expansion of one's intellectual horizon.

In Indonesia, national education standards, including standards for the 21st century, are closely linked to our national education goal which are rooted in our past and the subsequent endeavors for national development. At present nearly all of the region's school-age children are provided opportunities to acquire primary education for six years only, and we have now decided to extend this period to nine years. This is a very large step indeed in educational development, compared to the very meager educational facilities for indigenous children during the colonial government up to 1942.

Since 1989, with the adoption of a comprehensive Law on the National Education System, our national education goals are specified by law and in conformity to which the government is committed to act.

We are, of course, aware that as part of the global world, Indonesia is expected to fulfill certain global societal requirements, at least in order to be able to survive as a nation and state among other modernized nations and states. We have to modernize our society. We have to modernize our people. But we believe that in spite of modernization we should adhere ourselves to our basic cultural values and we wish to preserve our society as one that believes in God, or is perceived and interpreted according to the living religions in our communities, a society where more than 400 ethnic territorially based communities are unified as one Indonesian nation, a society where humanitarianism is expected to eliminate all manifestations of intolerance, a society where democracy is expressed through deliberations and consultations through a consensus building, a society where there is social justice for all of its members.

The type of society to which present-day Indonesians are striving for through the planned national development endeavor, and therefore also a national society, in the 21st century ought to be a society founded on the above-mentioned five pillars of wisdom, collectively known as the Pancasila.
Modern society and modern man have their own requirements which we have to take into consideration in specifying the educational standards in Indonesia. These requirements involve certain values and norms. The competencies associated with modernity have to be mastered by contemporary societies in our world; however, we have to be constantly aware that these competencies, although certainly imperative, are not the only ones that the society has to master. The changes brought about by globalization, especially the development of science and technology, certainly have had positive effects on our efforts to increase our people's well being. However, we should not ignore the possible negative consequences it may have on the ongoing social and cultural changes. Since globalization is unavoidable and its impact on the life of our societies could be both positive and negative, it is imperative for us to strengthen our national cultural resilience, indeed in such a way that will enable us to cope actively with the impact of globalization.

"...the preservation of more of our basic values, which are rooted in our cultures, is of prime importance in educating our children."

In this connection, Mr. Chairman, the preservation of more of our basic moral values, which are rooted in our cultures, is of prime importance in educating our children. It is only through a consciousness of national identity that it could strengthen our national resilience. However, our effort to preserve our cultural heritage is being countered by alien cultural influences. In this connection, allow me to quote the statements that I made some time ago at the Plenary Session of the 26th General Conference of UNESCO in Paris on October 17, 1991. I quote:

> Improvement of education has created an increasing need and desire for more information about a greater variety of problems. However, the development of the capacity to produce and to distribute information varies widely from country to country, particularly among the developing countries, where present imbalances in the world system of communication have turned many of these countries into mere consumers of information produced by vastly superior producers of information. These imbalances naturally contribute significantly to the formation of perceptions with respect to other nations and states, in turn having bearing on the shaping of the economic, political, cultural and other relationships among our nations.

I realize that this task before us is not an easy one. It involves one of the most important and also one of the most difficult and challenging tasks of teachers and educators, parents at home, and of those responsible for out-of-school education. At least in Indonesia — but I believe the same sentiments are not absent in most other Asian countries — we also feel very strongly that we have to preserve our own cultures, our relatively new unifying national culture, as well as the many more traditional ethnic cultures. Our own cultures provide us with roots and give us our identity as Indonesians. I submit that our respective cultural values are of some influence even on the teaching of natural science and technology in our schools, for example, in the selection of problems to be studied and the evaluation of the relevant realities.

Thus, although we are highly concerned about universal education standards, the standards in Indonesia may differ significantly from the standards elsewhere because we attach different values to certain types of knowledge and capacities to perform.

Finally, I would like to express to the nations' delegations appreciation for the opportunity given to us to compare notes about our respective ideas with respect to education standards for the 21st century with colleagues in the Asian and Pacific regions through the present ministerial.

Discussion

The discussion focused on a theme common to several speeches: the importance of cultural education at a time when outside influences are becoming stronger. Minister Hassan stated that an education must have a sound foundation of cultural values. An education system that is geared solely toward meeting technological needs will not be successful because those needs are constantly changing. A cultural orientation is particularly important at the elementary and secondary levels. At the upper levels, when dealing with skills or knowledge that is "universal," the connection to one's culture is less strong; one can learn these things from anyone, anywhere. Even this universality, however, stands at "the summit of an effort founded on the cultural matrix."

JAPAN

Kunio Hatoyama, Minister of Education, Science and Culture

Summary of Address

Minister Hatoyama discussed the Japanese view of education standards and how the government seeks to maintain those standards. Even before the beginning of modernization, the Japanese people put a high value on education. This continued through the process of modernization so that by the beginning of the 20th century, full enrollment in elementary education was achieved. After World War II, local governments were given more autonomy. The government continued to set national standards for management of schools and educational achievement in order to guarantee equal opportunity in education, prevent biases of teachers from affecting students, and to ensure that levels of achievement meet the country's needs. Minister Hatoyama also described two major areas of government focus, curriculum development and improving the quality of teachers. Japan's Ministry of Education, Science and Culture establishes a national course of study which it periodically updates to reflect changing circumstances. The government seeks to maintain and improve teacher quality by offering advanced teaching certificates, requiring a period of supervised training for new teachers and by ensuring that salaries attract quality teachers.

Address

Thank you, Mr. Chairman. It is a great honor and privilege for me to participate in this important gathering of education ministers, and I wish to express my sincere appreciation to President Bush for his initiative in the organization of this meeting.

Let me begin with a brief introduction on how we view "education standards" for elementary- and secondary-level school education in Japan, and what measures we have taken to maintain and improve the standards. In Japan, even before the Meiji Restoration of 1867, which was the beginning of the modernization of our country, the general public had put a high value on education and people in the community had taken initiatives to establish elementary-level educational institutions called "tera koya" — its literal meaning being Buddhist temple schools — in addition to training schools for the warrior class founded by feudal clans. The enrollment ratio in elementary education has been estimated as high as 40 percent among boys and 15 percent among girls in the early 1850s, which was before modernization. During the modernization processes following the Meiji Restoration, high priority continued to be given to education, and at the beginning of this century, full enrollment in

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Minister Hatoyama is a graduate of the law department of Tokyo University. Since he was first elected to the House of Representatives in the Japanese Diet in 1976, he has served in several different parliamentary, Liberal Democratic Party (LDP), and ministry positions, including Chairman of the LDP Committee on Education; Parliamentary Vice Minister of Education, Science and Culture; and Deputy Director of the LDP Education Division.

elementary education had been achieved. It is widely recognized as a fact even outside Japan that education has played an important role in the modernization of our economy and society. There are two reasons for this. One is that the whole nation fully recognizes the value of education, giving high priority to development of education for children even in the family life. The other is that the government fully recognizes the importance of education for the development of our economy and society, and has actively promoted policies to upgrade the national level of education. Therefore, I may conclude that we have had a firm ground, or a national consensus, on the maintenance and improvement of education standards.

After World War II, our educational administration system was reformed to be based on the principle of local autonomy, where each local government has the initiative and primary responsibility. The role of the national government is to prepare laws and provide national standards, administrative guidance, advice, and assistance for the maintenance and improvement of the national level of education. This includes the establishment of standards for the administration and management of schools.

> *"Since the level of education is a key factor to the development of the nation, it is necessary that education standards be reviewed and revised periodically based on national criteria."*

As to the contents of education taught at schools, individual schools organize their own curriculum, in accordance with national standards established by the government and with guidance and advice provided by the administrators of schools including local governments.

There are three major reasons for the government to establish national standards on the quality of education: (1) to ensure equal opportunity in education, (2) to secure neutrality in education, and 3) to maintain and improve the level of education.

Let me elaborate a little further. (1) In order to realize the general principle of equal educational opportunity provided for in the Constitution of Japan, it is necessary for children to receive the same content and standards of education at any school and from any teacher. (2) Individual teachers may have their own thoughts and ideas, but education given to children should be neutral. (3) Since the level of education is a key factor to the development of the nation, it is necessary that education standards be reviewed and revised periodically based on national criteria. This is important in order to keep abreast of the development of science and technology, which is progressing rapidly in modern society, and to upgrade and update the level of education. These three points are our basic ideas for the establishment of common standards for the content of education.

These common standards have been maintained consistently since the war and have been accepted by schools. I believe this is due mainly to the fact that the general public has placed a high value on education, as I stated at the beginning of this presentation.

Our education standards are, therefore, established to ensure equal opportunity of education and to upgrade the level of education. In our school education, in addition to acquiring knowledge and skills, the development of the basic attitudes and personalities students need to make them responsible citizens is also deemed important. This aspect of education has been realized throughout our whole educational curriculum, including moral education and various school events. Naturally, our education standards contain these elements, as well.

These are guiding principles for the maintenance and improvement of education standards. As regards concrete policies, we can cite two targets, namely, curriculum development and the quality of teachers. First, in curriculum development, Japan's Ministry of Education, Science and Culture establishes the "Course of Study" as national standards for the curriculum for elementary and secondary education. Individual schools recognize their own curriculum in accordance with standards specified in the Course of Study, taking into account the real circumstances under which children are enrolled. This system ensures substantially equal opportunity as well as the same level of education throughout the country.

"All elementary and secondary schools in Japan are required to use these authorized textbooks as primary teaching materials."

To keep abreast of the changes of society including the development of technology, the Course of Study has been revised every 10 years or so, on the recommendation of the Curriculum Council, an advisory body to the Education Minister. In the last curriculum revision of 1989, for instance, we attempted to improve the content of education, reflecting the changes and needs of our society. Special attention was paid to make education more responsive to the direction of an information-oriented society, the internationalization of our country, and the need for environmental education.

The School Education Law of Japan provides a system for the authorization of textbooks. It means that, after examining draft textbooks written and compiled by private publishers, the Education Minister approves those that he deems suitable as textbooks to be used in schools on the basis of the deliberations and recommendations of the Textbook Authorization Council. All elementary and secondary schools in Japan are required to use these authorized textbooks as primary teaching materials.

The Course of Study and the authorization of textbooks are considered to be integral parts of the system, which enables citizens to realize their right to receive an education. Thus, they constitute our major means to ensure adequate quality and levels of education.

Secondly, as for the quality of teachers, comprehensive measures have been taken throughout for pre-service and in-service training of teachers to ensure the maintenance and improvement of their quality.

We have adopted a teachers' certificate system to assure teacher qualifications. Teachers' certificates are granted to those who have obtained the required credits at colleges or universities. In 1988, to further improve the expertise of the teaching profession, a new type of certificate was introduced for those who have completed a master's course. At the same time, a special system was created to attract and mobilize those who have exceptional knowledge and skills to the teaching profession.

In the area of teacher training, a system of induction training for beginning teachers was created in 1988. Under this system, all beginning teachers employed at national and local public schools are required to have a period of systematic induction training for one year after their appointment.

> *"...the government is required to take measures to keep the level of salaries for public school teachers higher than those of general public servants."*

Japan has also addressed the issue of salaries for compulsory school teachers. A law governing Social Measures on Salaries of Educational Personnel of National and Local Public Schools was enacted in 1974, with an aim to attract competent persons to the teaching profession, as well as help ensure the maintenance and improvement of school education, which lays the foundation for human development of the next generation. Under this law, the government is required to take measures to keep the level of salaries for public school teachers higher than those of general public servants. To comply with the requirement of this law, systematic measures were taken to improve the salaries of teachers from 1974 to 1979. Even now, the level of salaries for public school teachers is better than that for general public servants. At the same time, the salaries of senior high school teachers have been improved, in parallel with the improvements for compulsory school teachers.

It is a widely shared view among citizens that human resources are virtually the only resources we have in Japan, and that our economic development depends on the quality of the workforce as well as development of technology. We believe that the development of Japan for the 21st century largely depends on education. It is no exaggeration to say that Japan's high education level has always been supported by citizens' enthusiasm for education and excellent leadership by teachers. We might say that establishment of the Course of Study as the national education standard and various measures to upgrade the quality of teachers have been our key policies in this regard. With this point of view, the Ministry of Education, Science and Culture will continue to make efforts to maintain and further improve our national education standards. Thank you very much.

Discussion

One listener asked how the Japanese Ministry of Education, Science and Culture is able to meet its goal of providing the same education for all students across the country and what sort of assessments are used to ensure that the standards are being met. The Minister responded that although the cities and prefectures have a great deal of authority over their own schools, the Ministry of Education, Science and Culture maintains very strong indirect authority through the National Course of Study, a curriculum upon which the textbooks are based and to which all schools must adhere. Thus, with some regional variation, course content is essentially the same for all students across the country. Currently, the primary means of assessment are standardized examinations.

Another question dealt with the difficulty of reducing the pressures placed upon students while still maintaining high levels of academic achievement. Mr. Hatoyama stated that the pressures placed upon students stem from the fact that examination results are valued too highly in Japan. Parents push their children to do well on examinations because they know it is the only way they can enter a well-known university and later be employed by a well-known employer. The Ministry of Education, Science and Culture is trying to persuade employers and society in general to place less weight on examination results, but the problem continues to be one of its greatest challenges.

REPUBLIC OF KOREA

Wan Kyoo Cho, Minister of Education

Summary of Address

Minister Cho discussed gains made in education in Korea since 1945 in addressing such issues as school enrollment and illiteracy. Today, having met most of its goals of expanding educational opportunities, Korea is focusing on the quality of education. It is also trying to foster creativity despite the trend toward rote learning and studying only for the sake of an examination. In addition, as the world becomes increasingly interdependent, schools will need to provide a strong background of values for their students. To address these issues, the Ministry of Education is implementing several reform efforts, including a curriculum reform, which emphasizes more life-centered education at the elementary level and more elective courses at the secondary level; restructuring of secondary education to provide more vocational education; reform in science and technology education; and education to promote a unified Korea.

Address

It is a great pleasure to introduce the Korean experience in education to the distinguished delegates of the APEC members at this meeting. I hope that sharing of other countries' experiences will become the basis for increased international cooperation among the APEC members and that we will come up with new approaches through evolution of our common concerns about setting new education standards for the 21st century.

The general goals and philosophical ideals of Korean education are based on the concept of Hong Ik In Gan which means that education should serve for the universal benefit for all mankind. Although it has been subjected to varied interpretations with the changing demands of time, it still serves as the basic ideal or standard for national education in Korea.

Let me briefly look back upon the modern history of Korean education. In 1945, when Korea was liberated from 36 years of Japanese colonial occupation, following more than 1,000 years of dynastic rule, only 30 percent of the population between the ages of six and 11 enrolled in schools, and the illiteracy rate of the population 12 years old and older was about 78 percent. At the higher education level there was only one university. The Korean War of 1950 which had lasted three years also destroyed virtually all of the few available school facilities.

Minister Cho earned a B.A. and a Ph.D. from Seoul National University (SNU). He has also studied at Harvard and Cambridge. He has served as Vice President and President of SNU and also as president of the Korea Federation of Sciences and Technology Societies and of the Korea Science and Engineering Foundation.

One of the first national policies implemented by the Korean government established in 1948 was a campaign to stamp out illiteracy. The consequent and virtual eradication of illiteracy in the 1950s and through the '60s was indeed a remarkable achievement of Korean education. In 1970, the enrollment rate of Korean school-age children in the primary schools had reached 100 percent. Moreover, the middle school enrollment rates since 1985 have been almost 100 percent. At the high school level, the enrollment rate has now reached 96 percent. Furthermore, the advancement ratio of college students, among the age group, has increased beyond the 30 percent level, maybe next to the United States and Canada.

> *"...the Ministry of Education is increasingly redirecting its attention and resources to enhance quality of instruction toward the goal of educational 'excellence.'"*

Education has also been the most important factor in Korean development and social mobility. In other words, education has been the major source of trained manpower, particularly in science and technology. The earlier achievement of universal literacy was instrumental in the successful and ambitious national drive for economic takeoff. On the basis of universal education at the elementary and secondary levels, vocational and technical education has been vigorously carried out for the development of industrial skills and the manpower needed in the succeeding stages of economic growth.

Indeed, the strong aspiration of Koreans for education has been the major driving force for national development. However, we are not satisfied with mere reflection of past educational achievements we have accomplished. The world is continuously changing and progress demands newer programs. Now Korean education, as is true of many other countries, is confronted with many serious challenges to be overcome as we move toward the 21st century. This requires adjustment of old goals and the setting of new standards including what to teach and how to teach effectively.

It would be difficult to outline here all such goals and standards, but let me briefly mention the general policy direction and some of the specific reforms of education which are being pursued at the national level. First about education for excellence. The rapid quantitative expansion of Korean education has placed a great strain on the national treasury and on school facilities. And consequently, the excessive number of students in classrooms has also made it difficult to provide quality education. The budget constraints of the government also made it difficult to emphasize opportunities for hands-on experience such as field observation, lab work, shop practice, and so on.

Nevertheless, now that most all students have access to education regardless of their social or economic status, the Ministry of Education is increasingly redirecting its attention and resources to enhance quality of instruction toward the goal of educational "excellence." In this regard, an important direction of policy on education is the increasing concern for providing educational programs that better accommodate individual needs, abilities and attitudes.

The second policy direction I want to mention is education for creativity and rationality. The rapid expansion of Korean education has also fanned the desire of Koreans to pursue more and more education at any cost. The extraordinary demand for increasingly higher levels of education has also induced an educational climate obsessed with examinations, particularly in terms of higher education. Students are forced to focus on preparing for examinations for advancing to a few well-known and distinguished universities.

And in that course of preparation, education for reasoning and critical thinking skills is very much neglected. But future society does require individuals who can reason quickly and critically, lead and serve society; and education should prepare the child to respond creatively and rationally, adapting to the rapidly changing environment of the future. Therefore, we are increasingly placing our policy focus toward this objective of creativity and rationality through improvement of school curricula and the development of diverse types of new instructional methods.

"Schools have a responsibility to deal with the changing needs of youth and shift away from the mere imparting of knowledge."

The third area of emphasis is education for moral values. The unprecedented pace of social transformation experienced in Korea has also pushed the value of education to the forefront of the new agenda of Korean educational reform toward the 21st century. School should be a place where students internalize and habituate new beliefs and values and lifestyles. Schools have a responsibility to deal with the changing needs of youth and shift away from a mere imparting of knowledge.

In this sense, students need to be given ample opportunity to acquire the logical thinking abilities needed to solve modern problems by experience, to participate in the decision-making process, and to have an opportunity to take responsibility for what they decide. Schools should also prepare students to become the future citizens of the world, with global orientation and perspectives, and to live harmoniously and cooperatively in an increasingly interdependent world.

These are some of the new education policy directions being emphasized in Korea. The government is actively seeking ways to bring about reforms and innovation in this direction. The Ministry of Education is already well on the way to implementing special reform measures and innovative efforts. Let me cite here some of these innovative efforts.

First is the reform of curriculum. A major effort of the Ministry is currently on curriculum reform. This effort emphasizes that the curriculum be more accountable, responsive and diverse to meet the changing and expected needs of future societies. In this regard we want to move away from the curriculum which emphasizes rote memory and mere imparting of knowledge.

For example, at the lower grades of primary schools, the increasing focus is on providing a more life-centered education with an integrated curriculum. At the higher grade levels, particularly at the high school level, the number of elective subjects is to be increased, with opportunities for learning more appropriate subjects to meet the student's need and prospective career.

These continuing reforms are only a few examples of our efforts to adjust and establish new education standards. That is, of course, in turn reflected in the revision of curriculum. And the new curriculum will increasingly emphasize student learning of critical thinking skills, the development of an inquiring and creative mind, and problem-solving ability.

Next is restructuring of secondary school education. To make the school system more accountable we are pursuing ways to improve the basic education system so that we can better prepare the children for the future. Many of our students desperately try to go to college without considering their abilities and aptitude for higher education. One of the reasons is that we do not have adequate educational programs at the lower level to better accommodate the different career needs of students. With this recognition, career guidance programs are greatly being enhanced at the middle school level in order to raise the occupational awareness of youth at earlier ages.

> *"...national policy is being redirected toward innovating and restructuring the high school education system."*

At the high school level, the major policy focus is on greater vocationalization, so that the school educational system will better respond to changing patterns of employment and the occupational structure of the future. In this regard, national policy is being redirected toward innovating and restructuring the high school education system. As mentioned, an important direction in this regard is the increasing provision of programs toward vocationalization.

The next is innovation of science and technology education. Another important effort is related to enhancement of the effectiveness of science education. It is crucially important to expose youngsters to scientific inquiry skill-learning at early stages. In line with this, science curriculum is being reformed with improvement and expansion of lab or shop facilities. Increased efforts are also being provided for development of tools for national assessment in science and mathematics.

And finally education for unification is said to be a great challenge throughout the 21st century in Korea. Since the end of World War II, as you know, the Korean people have suffered from the tragic division of the country. And that tragic division led to the ruinous Korean War in 1950 which lasted three years. We still have to put up with the immeasurable losses from the confrontation between South and North. With the coming era of reconciliation in world politics, the Korean government has taken an active initiative to induce the dialogue, and finally we have reached a basic agreement on increased exchanges between the two Koreas.

In line with this current mood of reconciliation, the Korean people's aspiration for unification has heightened, and education to prepare for unification has emerged as a new policy task. This is because education must be the very foundation of easing the 45 years of hostilities and antagonism between the two Koreas as well as to recover the sense of common identity of Koreans as one people.

The Ministry of Education is attempting to provide various efforts to strengthen the education for unification, including curriculum and textbook revision. Under the firm belief in the superiority of free democratic principles and a free market system, we are seeking to educate our children to live together as one people with a sense of cooperation and harmony.

> *"...we are seeking to educate our children to live together as one people with a sense of cooperation and harmony."*

These are only a few examples of new initiatives by the government for educational reform at the national level. Successful implementation of these tasks, of course, requires the concerted effort and cooperation of various components of the Korean education system. In this effort, the Ministry of Education is taking the initiative in evaluating where Korean education was in the past, where it is at present, and what problems need to be tackled, and to project and design where it is going in the 21st century.

In closing my remarks, I hope that you provide us with many comments about the experience of Korean education — on its achievements, problems, and recent reform efforts. I also hope that this valuable forum will continue as an active vehicle to collect our wisdom and to seek solutions toward common problems. Thank you.

Discussion

Minister Cho responded to a question as to what steps are being taken to focus on cultural values in the education system. He stated that with modernization and the replacement of the extended family with the nuclear family, traditional values have been diluted. To address this problem, a great deal of research is currently being conducted in Korea to develop ways of maintaining traditional values.

NEW ZEALAND

Alexander Lockwood Smith, Minister of Education

Summary of Address

To complement a program of economic reform, the government of New Zealand began a series of education reforms in 1989. In 1989 and 1990 structural and administrative changes were enacted to give more autonomy to local education officials. Minister Smith outlined several of a second set of reforms, which focus on achievement, curriculum and providing greater choice and opportunity in education, particularly for the native Maori people. The Parents as First Teachers Program and the Achievement Initiative target early childhood education. The new National Qualifications Framework will allow all students to receive the same nationally recognized credentials but through a wide variety of means. In addition, several programs are in place to provide opportunities for lifelong learning and to develop training strategies to meet the needs of industry.

Address

During the last four years, New Zealand's entire public education system, from early childhood to tertiary and retraining, has been reformed. Not since 1877, when schooling was first made free, compulsory, and secular for all between the ages of six and 15, has New Zealand education been so transformed in so few years.

In 1989 and 1990, the reforms were structural and administrative, to ensure that decision-making and operational funding were devolved to the communities and institutions where education takes place. In the last two years the focus of reforms has been on achievement, curriculum, and providing freer choice and wider access to students, their parents and those who require education and training.

Just as education should not be seen in isolation from the society and economy within which it functions, so New Zealand's recent reforms are best appreciated within the context of a small nation undergoing a radical, wide-front series of reforms aimed at making itself competitive and prosperous in a world environment of rapid change.

1984-1992: Structural Reforms to Achieve a Deregulated Competitive, Enterprise Economy

The comprehensive economic reform program begun in 1984 has seen New Zealand move away from central planning and protectionism. New Zealand now has an open, market-driven economy

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Minister Smith holds a master's degree in agricultural science from Massey University and a Ph.D. in animal science from Adelaide University. He is Minister in Charge of the Education Review Office and the National Library, and he chairs the Cabinet Education, Science, and Technology Committee.

described in June 1992 by the International Institute of Management Development and the World Economic Forum as the most promising in the world in terms of its potential for economic competitiveness. Japan was singled out in the "World Competitiveness Report" as the most competitive economy because it "leads the world in management, research and development, domestic economic strength, education, and workforce motivation."

In New Zealand we have heeded and acted on this clear message that competitiveness and sustained economic growth are possible only if the education system provides students with the knowledge and skills to succeed and the ability to adapt to constant change.

Life in the 21st century will be characterized, even more than it is now, by the requirements and New Zealand's education reforms will ensure it can compete successfully in the 21st century. As noted by the International Institute of Management Development, the promise of this competitiveness is already manifest. New Zealand has reduced the central role of the state through corporatization and privatization. As a result our communications, transport, energy, forestry, and banking systems have all been modernized and made more efficient over the last six years.

> *"All of these dramatic changes have been paralleled in New Zealand's education system, in which expenditure has increased to more than 16 percent of GDP."*

Our export economy is producing consistent balance of payment surpluses; the domestic economy is reviving; capital now flows freely in and out of New Zealand; and confidence in the future is at its highest point in 10 years. State bureaucracies have been scaled back, given clearer direction, made more accountable, and in some cases privatized or disbanded. These reforms, coupled with consistently firm monetary policy, have significantly reduced state expenditures as a percentage of Gross Domestic Product, and have led to New Zealand having an inflation rate of less than 1 percent per year, the lowest in the OECD. Interest rates are at their lowest level in 20 years, another stimulus for economic recovery.

All of these dramatic changes have been paralleled in New Zealand's education system, in which expenditure has increased to more than 16 percent of GDP. The "Tomorrow's Schools" reform gave every school self-management and the funds to pursue education goals set by the government. Funding and self-management of early childhood education has been enhanced, and universities and polytechnics have autonomy and bulk-funding to produce more of the high-level skills, achievement, and adaptability the country needs.

With those fundamentals achieved by 1990, the New Zealand government is now putting in place reforms of the qualifications, curriculum, and industry skills training systems with the aim of building a highly skilled, highly motivated, highly creative, and highly adaptable workforce rewarded with high wages.

New Zealanders Adapt and Enskill Themselves for Rapid Change

While the traditional human capital orthodoxy does not provide a sufficient model for the link between education and economic growth, it is clear that the better a nation's workforce is educated, and the more comprehensive and responsive its education system, the more easily people will be able to adapt to constant change.

> *"The New Zealand government will, therefore, before the end of this year publish a comprehensive set of aims and targets to take our education system through the year 2001."*

The New Zealand government will, therefore, before the end of this year publish a comprehensive set of aims and targets to take our education system through the year 2001. These aims and targets will recognize:

- The need to compete and cooperate internationally;
- Rapid changes in technology and trade patterns;
- The need for an appropriately skilled and adaptable population;
- The need for lifelong opportunities for education, training, and retraining;
- Changing demographic patterns and increased ethnic diversity; and
- The need for individuals to take greater responsibility for their own futures.

These major social and economic trends, which New Zealand shares with many of its fellow APEC member nations, will underpin the aims and targets to be published in the New Zealand document, "Education For the 21st Century."

The aims will relate to early childhood education, curriculum and achievement, special needs, tertiary, qualifications, unskilling for enterprise, equality of opportunity, education of Maori, and the effective use of resources.

Targets, which indicate the government's commitment to carefully adapt and monitor the education system's achievements, have been set out under each aim. The targets will require some adjustment as a result of changes in the economy or revisions to baseline information. The broad strategies of the government, however, will not change.

It is planned to have in place a comprehensive set of indicators of the performance of the New Zealand education system by 1995. This development is consistent with the work being undertaken by OECD/OERI in the International Education Indicators Project.

Once this document is published, it will be the framework around which coherent education policy will develop — policy designed to prepare schools, polytechnic, universities, parents, and students for life in the 21st century. It will recognize, above all, the speed and constancy of change and the resultant imperative for broad, achievement-based, lifelong education.

As technology continues to change and become more advanced and complicated, we must ensure that New Zealanders show the dynamism and skills to improve our trading potential. Education must be valued for its own sake and not just for the material rewards it provides, but the needs of enterprise will not be ignored. The implications of that with respect to ongoing curriculum development are significant.

> *"One message is clear, however. While there may be little empirical evidence for the traditional view of the link between human capital development and economic performance, the level of educational achievement of a country's workforce does affect their ability to cope with technological change."*

New Zealand must prepare for a world where the speed of development and the speed of research means that we must solve problems more quickly and more accurately than our competitors. We must now work in cooperation where appropriate, and APEC is an example of this.

Professor Lester Thurow, Dean of MIT's Sloan School of Management, has argued that "shifts in technology require a very different education system to that of the past." He suggests that it is partly because of the computer revolutions in business that, while there will continue to be high tech and low tech products in the era ahead, all products will be produced with high tech processes.

Education and Economic Growth are Interdependent

As already noted, there is debate about the extent to which education influences economic performance. This is largely because of the difficulty in gathering empirical evidence at the micro level, and because so many other variables affect performance in the macroeconomy. One message is clear, however. While there may be little empirical evidence for the traditional view of the link between human capital development and economic performance, the level of educational achievement of a country's workforce does affect their ability to cope with technological change.

Richard A. Easterlin, a Professor of Economics at the University of Pennsylvania, in his 1981 paper "Why Isn't the Whole World Educated?" examined why some countries developed rapidly following James Watt's invention of the steam engine, while others remained locked in poverty. He concluded that those countries with more advanced formal schooling systems were able to take advantage of new technology. Those without failed to take advantage of the industrial revolution and remained in the middle ages. Wrote Easterlin:

> The answer, I suggest, has to do in important part with differences among countries in the extent of their population's formal schooling; the more schooling of appropriate content that a nation's populations had, the easier it was to master the new technological knowledge becoming available. Moreover, as I shall note subsequently, substantial increases in formal schooling tend to be accompanied by significant improvement in the incentive structure. Hence increased motivation often accompanied aptitudes for learning the new technology.

"...better educated people are more able to cope with new technology."

Ann P. Bartel and Frank R. Lichenber, economists at Columbia University, in their 1987 paper, "The Comparative Advantage of Educated Workers in Implementing New Technology," examined the link between education and training, and productivity. They found that comparative advantage did exist for people with higher education:

> . . . increas(ing) the relative supply of highly educated workers will be expected to accelerate the rate of diffusion of new industrial technologies by lowering the cost of adjustment and implementation.

In simpler terms, better educated people are more able to cope with new technology. There are huge opportunities available to countries which are prepared and able to take advantage of rapid technological change.

L.R. Maglen of the Economics Department at Monash University, Victoria, Australia devoted much of his 1990 survey, "Challenging the Human Capital Orthodoxy: The Education Productivity Link Re-examined," to a thorough debunking of the view that education leads to increased productivity. However, even his conclusion thoroughly supports a key aspect of current and future New Zealand government policy:

> The series of detailed inter-country occupational studies by Prais and colleagues have shown that productivity gains associated with education are not so much to do with the amount of education people undertake prior to entering the workforce as with, on the one hand, the quality of the grounding they receive in mathematics, science and languages, and on the other, the extent and thoroughness of the on-the-job training they subsequently are given. What this suggests is that inframarginal investments, designed to build up the quality of education in the core subjects at the primary and secondary levels, coupled with well developed programs of employment-based training, are likely to yield better returns to society than are those aimed at increasing the number of graduates coming out of the system.

Consistent with Maglen's findings, the New Zealand government is now stressing quality in the core subjects, with regular assessment and subsequent resource targeting to ensure that quality. New Zealand's industry skills training policy introduced this year equally ensures access to thorough employment-based training.

Education Is Preparation for Change

American futurist Alvin Toffler, in Powershift (1990), the third volume of his trilogy that began with Future Shock (1970), argues that the children who are in today's classrooms are the 800th human lifetime, living on "the hinge of history." They will experience and probably be shocked by change more rapid and bewildering than that experienced by any previous lifetime.

> *"The significance of the New Zealand education reforms is not so much that they are a massive reform package in themselves. The significance lies in that they will allow the education system to change as the world around us changes."*

The significance of the New Zealand education reforms is not so much that they are a massive reform package in themselves. The significance lies in that they will allow the education system to change as the world around us changes. At the school level, more effective self-management will allow our schools to provide students with an education that is designed specifically for the needs of their community and the reality of the era. Where before the school system was driven, largely, from the center, now it will be run by the people who know best the needs of their individual students. While local schools are now being funded from the center, local schools will be run by the community.

Nowhere is this more true than in how the recent reforms have recognized and accommodated the needs of Maori, New Zealand's indigenous people. The dramatic growth of Maori early childhood education, in the form of Maori language nests in which 19 percent of Maori children up to five years old now learn their culture and language, has led to the establishment of Kura Kaupapa Maori right through New Zealand. The Kura are schools, funded by the government and self-managed by the local Maori community, in which the entire curriculum is delivered in Maori. Many other schools now have "total immersion" units and bilingual classes in an English-speaking setting.

By 1992, 35 of Maori pupils had access to Maori language education, but there is still a great deal of work to do. Only 834 teachers in schools are known to be fluent speakers of Maori; just 6 percent of all New Zealand teachers are Maori.

Progress however is swift and these changes, like the whole reform strategy, recognize the needs of all New Zealanders for educational success in whatever setting best suits them, and the needs of community management of the schools themselves to ensure that local community aspirations are fulfilled along with the government's goals.

Self-managed schools have the flexibility required to ensure that the education students receive is in line with the technology and society of the day. That is not to say that education will be vulnerable to the whims and fashions of vested interests. As well as funding, the government's role will be to set the goals of school education. We are in the process of doing so in mathematics, science, English, and technology. The government will set the national goals of education because it is best placed to do so. The local community will determine how to achieve those goals because they are best placed to do so.

> *"Self-managed schools have the flexibility required to ensure that the education students receive is in line with the technology and society of the day."*

New Zealand must see change not as a threat, but as an opportunity from which to take advantage. Only by responding to change at least as effectively as our international competitors can we hold our place in the world. And if the ability to adapt to change is to be even more important in the future than it is today, we must look at our education system to take the lead in preparing New Zealanders for change.

Early Intervention Is Essential

Renowned British educationalist Sir Christopher Ball has visited New Zealand regularly in recent years and made contributions to our thinking on education. In August 1991 he spoke about the "vicious cycles" of low expectation and low achievement that rap so many young Britons.

Sir Christopher argued for their replacement by "virtuous circles" of success, in which, from a very early age, children would enjoy learning success at home and whole families would develop expectations of progress and achievement.

New Zealand has had considerable success in early intervention to ensure learning. The Reading Recovery program, for six- and seven-year-olds, introduced by Dame Marie Clay, is now recognized internationally. But this is not early enough to achieve widespread "virtuous circles" in New Zealand.

Parents As First Teachers

For that reason, the Parents As First Teachers program is being trialled in four diverse regions of New Zealand. Its purpose is to ensure that all New Zealanders develop the language, intellectual, and social skills on which to build future learning. This will be done by providing support to first-time parents to help them create an educationally supportive environment for their babies to develop those skills. It will also enable parents to identify any health defects that may impair development.

The original idea for the program came from the Harvard University Preschool Project begun in 1965. Research by Dr. Phil Silva, of Otago University, Dunedine, New Zealand, also showed the consequences of delayed language development, and the Parents As Teachers program in Missouri has shown the long-term educational benefits of ensuring language development progresses successfully in the first three years of life. Silva's longitudinal research, begun in 1972 with a birth cohort of 1,037 babies born at a Dunedine hospital, is still continuing with 97 percent still in the program by 1990, despite being dispersed around the world. Follow up of all the children in the sample began at age three and every two years hence. Research areas include alcohol, asthma, cardiac, dental, and mental health, delinquency, disabilities, educational development, leisure activities, values, and so on.

> *"The New Zealand government has acted quickly and the Parents As First Teachers Program is being piloted now with 500 families. We aim to involve 10,000 families by the year 2001."*

The research provides a strong case for early intervention. Learning problems in later life are usually caused by delayed language development in the first three years. The New Zealand government has acted quickly and the Parents As First Teachers Program is being piloted now with 500 families. We aim to involve 10,000 families by the year 2001.

Parent educators will provide first-time parents in New Zealand with the necessary support and guidance to stimulate their babies' minds. Working as a team, parent educators and parents will monitor the health and general well-being of their children to ensure that language and communication skills develop properly, these skills being prerequisites for effective schooling and the acquisition of essential knowledge.

Reading and Learning

The research of Dr. Tom Nicholson, Associate Professor of Education at the University of Auckland, New Zealand, promises to be just as valuable in shaping education policy and practice as that of Dr. Silva. In his 1988 study, "Reading and Learning in the Junior Secondary School," Tom Nicholson showed that those students with better reading skills and who are well-read, are likely to have a far greater base of knowledge on which to develop new ideas. He also showed that what the teacher was saying in a classroom was not necessarily what many students were learning.

Students have their own way of learning that is based on their own ways of conceptualizing the ideas that the researcher is trying to put across. These ideas are based on their preconceived ideas about the world around them and their lack of expert knowledge of the world around them.

Dr. Nicholson is also playing a role in the current international debate on the "context" versus "phonic" preferences for the teaching and learning of reading. "Although the classic results give the impression that all children read dramatically better in context, the evidence now suggests that only poor and younger average readers clearly read better in context," Dr. Nicholson writes.

Dr. Nicholson does not advocate replacement of a context-based reading system, just an addition to it. He is currently conducting a controlled study in which some children receive mandatory phonics tuition instead of, or in addition to, the mainstream whole language approach, while others continue with the current system. This is the current New Zealand model, well researched and internationally known through the work of Marie Clay. The New Zealand model requires the use of a variety of reading strategies — context, syntax, picture cues, phonics, and, of course, the prior knowledge and experience of the learner.

The New Zealand government is closely interested in the Nicholson research, much as it is in that of Dr. Silva. Achievement is essential; it must begin at the earliest stages of life, and it must not be impeded by problems like poor reading skills. The government has developed guidelines for teachers in reading in mathematics and science at secondary school levels, also based on Dr. Nicholson's 1988 research.

New Zealand's Achievement Initiative

The Achievement Initiative is the cornerstone of the new policies which will ensure more successful schooling in New Zealand. We believe it to be a unique development drawing together a new National Curriculum based on learning goals and assessment procedures designed to focus support on learning need. It has three components:

- The new National Curriculum sets clear learning goals at each level and within each section, or strand, of each subject. The learning goals will outline the relevant knowledge, understanding and skills which students should develop at each level of the school system from age five through to form seven, the final year of secondary school. The curriculum statements are not rigidly prescriptive. Teachers are given guidance as to appropriate teaching programs to meet the learning goals. Teaching programs will draw on the life experiences of each individual student.

> *"The learning goals will outline the relevant knowledge, understanding and skills which students should develop at each level of the school system..."*

- Progress will be monitored against these predetermined standards throughout the school years. The emphasis will be on the practical application of theoretical knowledge. Teachers will know in which strands of a subject their students are developing the skills and knowledge they need and where they are not. Consequently, teachers will be able to design teaching programs which best suit the stage of development their students are at.

- The third facet of the Achievement Initiative is assessment at key transition points of the school system: at entry into primary school (age 5); intermediate school (age 11), and secondary school (age 13). The results of this assessment will enable the government to better target resources and support to schools facing the challenge of educating either disadvantaged or particularly gifted students.

The draft New Zealand Curriculum framework was launched in 1991. It was received favorably except that some educationalists felt it focused too much on education for enterprise, and some industry groups felt it focused too much on education for the individual. It must therefore be just about right.

Draft National Curriculum statements on mathematics and science have been launched in 1992 and both have been very well received. English and technology will follow in 1993. The statements are to be launched in draft form initially so that all stakeholders, teachers, parents, and enterprise, can make a contribution to the final curriculum before it becomes compulsory.

The New Zealand government is confident that its innovative and comprehensive Achievement Initiative will provide for the most critical need of our education system in the 21st century: challenge and achievement.

New Zealand's New Qualifications Framework

In the qualifications area as well, New Zealand is being most innovative, and the need for a new approach was acute. The traditional examinations-based system was an obstacle course with a scaling process which did little to measure a student's actual level of achievement.

> "...*Thirty-three percent of New Zealand's working age population have no formal qualification...*"

According to the March 1991 Household Labor Force Survey:

- Thirty-three percent of New Zealand's working age population have no formal qualification;
- Only 38 percent have some kind of tertiary education and training qualification; and
- Forty-seven percent of unemployed 13- to 19-year-olds have no formal qualifications system.

As well, these facts indicate something clearly wrong with our previous qualifications system:

- Only one-third of young New Zealanders who complete their secondary school education go on to tertiary education or vocational training;
- Only nine out of every 100 16-year-olds in our school system go on to obtain a technology-related qualification;
- Thirty-three percent of Maori students leave school with no formal qualifications, compared with 15 percent of non-Maori students; and
- Only 15 percent of Maori pupils stay at school to form seven level, compared with 40 percent of non-Maori pupils.

Clearly the traditional New Zealand system locked too many people out of qualifications. About 30 percent each year failed to gain any formal success in School Certificate, at age 16. There were almost one-third of every age cohort who were left with nothing to build on, except a sense of failure, and rejection by the education system which was there to provide them with educational success.

> *"Clearly the traditional New Zealand system locked too many people out of qualifications."*

New Zealand's new National Qualifications Framework aims to change that. Introduced in 1991, it will allow students to start building a qualification while at school and continue to build it through post-school education and training. It will encourage students to see school not as the end of education but just the beginning.

Under the framework, "units of learning" are being developed. A unit of learning outlines a set of skills, knowledge, and understanding, at a certain level within a certain strand of a particular subject or discipline. When a student or trainee develops these skills to an acceptable standard, that "unit of learning" will be credited to their National Certificate. New Zealanders will be able to develop a qualification which is designed specifically to their requirements. Qualifications will be dynamic documents. They will focus on achievement, not on failure, insofar as all success will be recorded.

Importantly, the National Certificate will allow students and trainees to receive the same, nationally recognized qualifications from a variety of providers, whether in the senior second school, a polytechnic, or under the Industry Skills Training Strategy or through the Training Opportunities Program with a private training establishment.

No longer will there be artificial, institutional barriers to a student building a qualification. Education and training from a variety of providers will be able to be integrated in the one coherent qualification. Students and trainees will have the power to build a nationally recognized qualification which recognizes all the skills, knowledge, and understanding they develop as they move from school to tertiary education to workplace training.

David Hood, Chief Executive Officer of the New Zealand Qualifications Authority, is responsible for the implementation of the framework and the National Certificate. At an international conference on "Qualifications for the 21st Century," January 1992, in Wellington, David Hood said: "Change is essential. As New Zealanders we need to establish goals for educational attainment by all citizens within an overall skills strategy. What does this mean for qualifications arrangements? Qualifications must:

(a) Be based on a national coordinated system that breaks down traditional boundaries between academic and vocational subjects;

(b) Be more skills-based and less content- or knowledge-based;

(c) At lower levels, be more broadly based with emphasis on generic and portable, transferrable skills;

(d) Be capable of rapid responsiveness to the changing needs of the economy and society, to changing technology, and to changing occupational structures and workplace reform;

(e) Be based on a true partnership between providers and clients, and that includes potential students;

(f) Be flexible enough to meet national needs, specific local needs (including at the enterprise level), and special regional needs;

(g) Be capable of being gained anywhere, at any time, and at any age, i.e., they must be accessible to everyone;

(h) Provide clear pathways for building on skills or competence and not be used solely as selecting or sifting devices;

(i) Be capable of recognizing skills learned in ways other than through formal education; and

(j) Be based on sound principles of quality, with clearly defined outcomes or standards, rather than mythical "standards" incapable of definition."

Need I say that the Qualifications Authority believes the National Qualifications Framework has the potential to achieve all this — particularly because it is a framework, linking all qualifications, lifelong, into a continuous sequence of achievement.

An internationally respected view of New Zealand's Qualifications Framework was provided at the same conference by Professor Patricia Broadfoot, director of the Center for Assessment Studies, University of Bristol, U.K. She said:

> In reviewing current international developments in assessment, it is appropriate to start with New Zealand which offers one of the most radical models of change in its National Qualification Framework. The new system — which will include all formal qualifications, including degrees — embodies within its commitment to bringing together general and vocational education, formal and non-formal learning situations, as well as prior learning, and a strong commitment to assessment based on clearly stated standards. The explicit aspiration for the design of the framework is that it will give greater motivation for learners, clearer goals for teachers and better information for users, as well as being a fairer basis than hitherto for evaluating achievement.

The National Qualifications Framework is therefore integral to New Zealand's education reform strategy to achieve excellence in a competitive world. It is completely compatible with the frameworks being implemented in Australia and the European Community. It adds innovation, adaptability, and above all, success, to the education system. High failure rates, low stay-on rates, and an underskilled, underachieving workforce will be, by the 21st century, historical features in New Zealand.

> *"The National Qualifications Framework is therefore integral to New Zealand's reform strategy to achieve excellence in a competitive world."*

Success Depends on Lifelong Learning

The National Qualifications Framework encourages students to see school as just the start of learning, so the New Zealand government has had to ensure clear, accessible pathways for lifelong learning.

Contemporaneous with the "Tomorrow's Schools" reforms of the school system in the late 1980s was "Learning for Life," a comprehensive administrative reform of tertiary and continuing education. The theme — self-management plus bulk-funding — was the same.

The polytechnics and colleges of education have now evolved into tertiary institutions that have the same autonomy as the universities. Private training establishments were funded on a similar basis to other tertiary institutions for the first time in 1992 to introduce a new element of competition and diversity.

The tertiary education system has shown rapid recent growth in student numbers of around 8 percent per annum to reach a total of 124,087 full-time equivalent students (EFTS) in 1992. The participation rate for 18-year-olds entering tertiary education has improved from 26 percent in 1985, to 43 percent in 1991. This improvement is expected to continue, reflecting higher retention rates in the senior secondary school, unemployment, the increasing recognition by school leavers of the link between tertiary education and employment, and the government's commitment to tertiary growth (an additional 15,388 funded EFTS places in tertiary institutions over the last two years).

The New Zealand government now expends more than $1,300 million each year on tertiary education, about one quarter of all expenditure on education, which covers more than 90 percent of the actual costs. The Study Right policy implemented in 1992 targets assistance towards school leavers to encourage them to continue with tertiary education. A subsidized loan scheme was also introduced in 1992 to assist students with tuition fees set by institutions, other course-related costs, and living expenses. A student allowances scheme provides support for students from low-income families.

The development of a lifelong "learning culture" is essential for New Zealand's growing competitiveness toward the 21st century. It must include more than formal tertiary education in universities, polytechnics, colleges of education, and the like.

The government recognizes this fully and in early 1992 introduced the Industry Skills Training Strategy, under which workplace training in New Zealand will be driven by industry that decides which skills are required by employees to play a full role in our modern economy.

This new training strategy will give industry the leading role in setting and monitoring standards, and designing and making arrangements for the delivery of training that enables trainees to attain these standards. Industry Training Organizations, set up and owned by industry, will play a key role in implementing the strategy.

> *"This new training strategy will give industry the leading role in setting and monitoring standards, and designing and making arrangements for the delivery of training ...."*

The Youth Traineeship Scheme is part of the broader strategy and will provide new opportunities for young people to undergo systematic training in industry. The scheme will be focused in parts of industry or in the occupations that previously have not had systematic training programs linked to national qualifications.

The School-Industry Links policy will encourage the development of linkages between schools and local enterprises. These links can provide a useful and meaningful context for the development of students' skills and knowledge across the curriculum.

The Training Opportunities Program makes the "lifelong learning culture" strategy fully comprehensive. It provides a "second chance" but not "second-best" safety net to those New Zealanders trapped with no or low qualifications. It is a way for the unemployed to re-enter the mainstream training system and have their training recognized in the same qualification framework as that of other New Zealanders in conventional education and training situations.

Sir Christopher Ball speaks of three levels of education: "foundation," "formative," and "continuing." Clearly the New Zealand reforms, extending from Parents As First Teachers to Study Right, Industry Skills Training, and the Training Opportunities Program, caters generously now for the needs of all three levels. By 2001, New Zealand should have that success-filled learning culture essential for adaptability to rapid change and for the achievement of excellence.

It Is We Who Must Unlock the Door

President John F. Kennedy said in 1962, "Our progress as a nation can be no swifter than our progress in education. The human mind is our greatest resource." Thirty years later, that statement is as true for New Zealand as it no doubt was for other countries. New Zealand has always had a good education system for most people and most purposes, but it was not good enough for the 21st century.

There was vigorous debate when the radical reforms began in 1988, but just four years later very few, if any, New Zealanders look back to the old system with nostalgic regret. There is still debate, of course: successful reform depends on it.

New Zealand in 1992 is on course and the momentum is high. Achievement, stemming from the reforms, in terms of increased participation, wider community "ownership" of education, higher funding, longer student stay-on, acceptance of new qualifications and curricula frameworks, are all measurable. In front of New Zealand still is the fundamental truth that our future wealth, culturally and economically, relies on education systems which rapidly evolve and adapt to produce skills, achievements, and the imperative to stay in education, training, and retraining for life. Like you, my colleague Ministers of Education, my job is to work towards the future. I work for New Zealand's cultural and economic future wealth.

Discussion

Minister Smith was asked to comment on some of the differences he had observed between the remarks of Ministers from countries with an Asian background and countries with a European background. He noted that it appears as though the education systems in the United States, Australia, Canada, and New Zealand were developed for the industrial era and have had difficulty adapting to the information era. He contrasted the concerns of the Asian Ministers, some of whom felt their systems might be too rigorous, with his own concern that the system in his country was not rigorous enough. A major theme he noticed that was common to all the remarks was one of "trying to make quite cumbersome systems responsive to change." In New Zealand, one step taken toward that goal was the elimination of the entire layer of middle management comprised of local education authorities. This has given much more autonomy to the individual schools and has made them directly responsible to the national government.

REPUBLIC OF THE PHILIPPINES

Luis R. Baltazar, Undersecretary, Department of Education, Culture, and Sports

Summary of Address

The Undersecretary began his remarks by noting that the Philippines has seen many changes since the end of World War II. Despite the very difficult conditions, both economic and social, that followed the war, educators made great efforts to address the problems of the large number of youth who were forced to stop schooling and to improve the quality of the school system. These efforts to improve quality continue today. He discussed five elements vital to attaining quality education in the Philippines. These are: (1) improving curricular content and materials by establishing standards of achievement, developing prototype materials for teaching basic skills and making technical and vocational education more in tune with the country's economy; (2) giving teachers better guidance in the area of teaching methods and lesson planning; (3) assessing the academic progress of students; (4) improving both pre-service and in-service training of teachers; and 5) improving the physical facilities of the schools.

Address

It is a privilege for me to participate in this meeting of leaders in the field of education. As I speak before you today, I am greatly aware that I am addressing a group of men and women whose understanding and perception and whose diligence and dynamism determine much of the content, the direction and the quality of education in their own countries and which will ultimately shape both national and regional growth and development. For this reason, we have the highest hopes that this meeting will succeed in pointing out the strengths and weaknesses of our own particular education systems and that, in the process, each one could glean some strategies for addressing the challenges we individually face in this last decade of this century.

So, I guess it is fitting to thank, at this moment, the organizers, the sponsors of this monumental gathering for the recognition of the importance of education as a topic for international discussion and cooperation and the affirmation of the direct link between education and economic development.

Education in the Philippines has undergone many changes since the last World War. The years immediately after the war required the rehabilitation, not only of the structures and industries that were destroyed, but also of the shattered lives of many of our people. The decades of the '50s, the '60s and the '70s were years of renewal and reorientation of values that were seriously affected by want, deprivation, and the need to simply survive.

Undersecretary Baltazar has a long history of government service. He has held many key positions, including Deputy Minister of Budget and Management, General Manager of the Philippine Public School Teachers Association, and Deputy National Security Advisor. He holds a master's degree in public administration from the Polytechnic University of the Philippines.

Those were difficult years indeed, for along with the need to reorient values, we also had to redirect the school curricula in order to make them responsive to the requirements, not only of a country needing physical and moral rehabilitation, but also of the youth, most of whom had to stop schooling and had become over-aged for the school level they were in. The revisions were then made in the elementary, secondary and teacher education curricula.

Subsequent years witnessed great efforts exerted by educators to correct the inadequacies of our school delivery systems. We realize that the mediocrity spawned by expediency must now give way to quality and the attainment of excellence. Quality in the Philippine perspective implies an upgrading of education standards which include the outcomes expected of learners and the opportunities provided to attain them. To achieve quality, these outcomes must be improved and the opportunities increased. But fundamental to the achievement of quality is an evaluation system that provides decision makers with information which can indicate the changes needed to improve education.

> *"Quality in the Philippine perspective implies an upgrading of education standards which include the outcomes expected of learners and the opportunities provided to attain them."*

In the Philippines, the new elementary curriculum was evolved through the Program for Decentralized Educational Development, or PRODED for short, and through the Secondary Education Development Program for the secondary level. Both learning continuums constitute the minimum standards of pupil performance for each grade level. Each contains learning outcomes which are expected to be achieved at least at 75 percent mastery level by all pupils. But, quality education aims to have all students achieve not only the minimum standards, but also to learn whatever they are capable of learning beyond the minimum. This means that the learner should be motivated and assisted to learn more than the listed minimum competencies for each grade. To facilitate this, our Department has developed prototype multi-level materials for teaching basic skills. Copies of these materials are provided to our field offices for adaptation and modification for classroom use.

Mastery of basic skills alone, however, does not constitute quality education. A good balance between cognitive and psychomotor skills on the one hand and affective learning on the other is required. It is only when a human being possesses desirable values that he can use his skills in a socially acceptable manner. The development of values of humanism and nationhood, the thrust of our basic education curriculum, must receive the same emphasis if quality is to be maintained.

A system striving to deliver quality education must also provide adequately for the education of the gifted and the handicapped. We are moving in this direction too.

The quality of education at our higher education level institutions is being upgraded and sustained. Policies and standards for the different higher education programs have been developed by our Department in partnership with the academic and professional organizations and industries. Such guidelines serve as a yardstick for determining admission requirements, instructional standards, among others, and strengthening the system of voluntary accreditation for all universities and colleges, including those run by the state.

Technical and vocational education is being directed towards providing skills required by a labor-intensive, agricultural, and rural-based development strategy; skills for self-employment and entrepreneurship; and skills required by current and emerging technologies. However, skills development will be enriched with the inculcation of values emphasizing work ethics, discipline, productivity, and nationalism.

Our Department develops and produces instructional materials, books, and manuals showing different strategies for effective teaching. The manuals emphasize instructional decision making skills, offer a number of options suitable for each subject matter and situation, and are useful references for individual teachers and for learning action cell sessions.

> *"...the Department has proposed guidelines for the preparation of very brief lesson plans instead of the usually detailed and time-consuming ones."*

To give our teachers more time to prepare for the daily teaching assignments, the Department has proposed guidelines for the preparation of very brief lesson plans instead of the usually detailed and time-consuming ones. School principals, assisted by master teachers, are expected to train their teachers to teach as effectively with the abbreviated lesson plans. The Department encourages schools to use the latest educational technologies such as computers, television, radio and the like whenever it is economically and pedagogically feasible.

Student performance is periodically evaluated formatively and summatively to provide a basis for improving instruction. In our elementary schools, assessment is conducted every grading period or four times every year. Daily evaluation of skills mastered is also done. Subject specialists of the curriculum development divisions administer national tests in all subject areas. These assessments are either written, oral, or a combination of both.

A semestral assessment is a major basis for the student's retention in the grade or promotion to the next higher. The annual National College Entrance Examination is in turn administered to determine which students will go to college or who will take up vocational courses. And the NCEE covers five subject areas: Filipino, English, mathematics, science, and social studies.

The teacher, needless to say, is the most important factor in obtaining quality education. Hence, we have heavy emphasis on improving the quality of both the pre-service and in-service programs for teachers and reorientation of school officials. In-service training programs are regularly conducted at the region, division, and school levels. Both the pre-service and in-service programs are collaborative responsibilities of teacher training institutions, the schools, the profession, and the community. National standards for entry to pre-service education is in the form of an acceptable

NCEE percentile rank, while entry into the profession uses a passing score in the Professional Board Examination for Teachers.

> *"The teacher, needless to say, is the most important factor in obtaining quality education."*

Our Department has developed standards for school buildings, classrooms, libraries, clinics and multi-purpose rooms, as well as for lighting, ventilation, and positioning of school buildings. These standards serve as a basis for future facilities acquisition so as to help raise the quality of education. Almost all of our 14 regions in the country have a regional learning resource center or RELC, well-equipped and well-staffed to conduct in-service training, research and development projects. There, teachers are trained to develop instructional materials, use specific methods or strategies, prepare tests, and make audiovisual training materials. These centers also support seminars and meetings in school clusters and in large schools.

The Philippine school system today is a huge network of schools and a vast enterprise — so vast that its public sector alone accounts for almost 30 percent of the total personnel in our bureaucracy. And much is expected from education in the national development plan.

The Filipino's faith in education, the key to a bright future for the individual and for society, remains resolute. The Philippine Constitution accords the "highest budgetary priority to education, guarantees the right of all citizens to quality education at all levels," and mandates the state to make such education accessible to all. These provisions in that document are anchored on the assumption that education would "foster patriotism, accelerate social progress and promote total human liberation and development."

Thus, the spirit and resolve for high-quality education is enshrined in our Constitution. What is needed is the determined will and the resources to translate it into action. The challenge of tomorrow is here, and every Filipino teacher is looking forward to the 21st century full of bright hopes and great expectations for our nation, the region, and ultimately the worldwide community. Thank you for your attention.

Discussion

Undersecretary Baltazar was asked about the national system of examinations he mentioned in his speech. He stated that they are given each year in specific subject areas at every grade level. They are used to assess whether a student has attained the knowledge and skills necessary to advance to the next grade level.

SINGAPORE

Lee Yock Suan, Minister of Education

Summary of Address

After gaining full independence in 1965, Singapore enacted a number of reforms intended to make education available to all, to streamline what had been four different systems of education, and to produce students capable of working in a technical environment. Minister Lee described four goals Singapore has identified as being crucial to preparing Singapore's young for the 21st century: (1) high academic standards within a structured national curriculum, (2) an adaptable and creative workforce, (3) an international outlook, and (4) a set of national values, emphasizing family, community and consensus-building. He also mentioned five key elements to achieving these goals. They are a broad based national curriculum, assessment of academic achievement, an expansion of participation in post-secondary education, involvement of parents and community groups in the educational process, and increased autonomy for individual schools.

Address

I would like first of all to join with the other delegations in expressing our appreciation to the government of the U.S.A. for hosting this first APEC Education Ministerial meeting. My colleagues and I in the Singapore delegation have found this meeting as well as the symposium that preceded it most enlightening and interesting. It is my privilege to share with you our experience in the field of education.

Singapore is a small island nation with a land area of about 640 square kilometers. That is about the size of the city of New York. Our multiracial population of 2.7 million people comprises 75 percent Chinese, 15 percent Malays, 6 percent Indians and 4 percent other racial groups. Our people are our only resource. To survive and progress as an independent nation, it is imperative that we develop our human resource to the maximum.

We believe that education is the key to a better future. It enables us to respond quickly to new challenges and new demands created by changes in the world environment. We have, therefore, as a government and people, placed a high premium on education. Our budget for education is about 4 percent of our GDP, second only to defense spending, and is expected to increase to about 5 percent in the coming years.

Minister Lee was born in Singapore and received a B.S. in Chemical Engineering from Imperial College of London University and a degree in Business Administration from the University of Singapore. Before being appointed to his current post in January 1992, he held several other government positions, including Minister of State and Minister for Labor.

Like most other nations, we believe that education should bring out the best in each child and make him a more rounded person. He should be equipped with the requisite knowledge and skills and imbued with sound moral values and a good work ethic. With these attributes, he will grow up into a useful citizen, able to look after himself and his family, and to contribute to society.

Singapore became self-governing in 1959 and after two years as part of Malaysia, became fully independent in 1965. In the '60s and '70s, our priority was to make education available to all. We undertook an accelerated school building program and stepped up teacher recruitment and training to provide sufficient places for all our children.

"To meet our need for training manpower, we gave emphasis to science and technical education in the curriculum. All pupils were required to learn mathematics and science, besides languages."

Before independence, we had a rather complex education setup with virtually four systems of education. They were the Chinese, Malay, Tamal and English streams. The colonial government provided education in English while the different communities ran their own schools. With independence, we introduced the common curriculum and promoted bilingualism in English and the mother tongue.

To meet our need for training manpower, we gave emphasis to science and technical education in the curriculum. All pupils were required to learn mathematics and science, besides languages.

By the late '70s, our educational infrastructure was largely in place. To reduce the high attrition rate, ability-based screening was introduced in 1980. This allows the pupils to learn at different rates according to their abilities.

With increasing internationalization of Singapore economy, parents showed a strong preference for English stream schools. They recognized the economic value of English. Enrollments in the other language streams declined sharply. This has led to the evolution of a common national stream. English is the main medium of instruction. The mother tongue language is taught as a compulsory subject to provide a link with each community's culture and values.

We must prepare for the 21st century in anticipation of even more rapid technological changes and keener competition among nations. What is becoming increasingly clear is that economic growth and competitiveness of a nation will depend less on its natural resources and more on the resourcefulness and resilience of its people. Education is vital to maintain our competitive edge. To prepare our young for the 21st century, we have identified the following: firstly, high academic standards within a structured national curriculum; secondly, adaptability and creativity to meet the demands of a fast changing world; thirdly, a more global outlook to cope with increasing internationalization of the world economy; and hopefully a set of shared national values which emphasize the family, the community, and consensus-building.

In Singapore, high academic standards are achieved through the implementation of a national curriculum and regular assessment. The national curriculum is broad-based and provides for the all-around development of our pupils. We believe in a strong foundation in literacy and numeracy. In our multiracial society, our children need to be bilingual in English and their mother tongue. They are encouraged to develop physically and socially through participation in extracurricular activities.

> *"In Singapore, high academic standards are achieved through the implementation of a national curriculum and regular assessment."*

To cope with the rapidly changing world, schooling will emphasize more than just factual learning. Pupils will be taught to be independent learners and problem-solvers. They will acquire skills to seek out information and knowledge. They will be trained to think critically and creatively, to show initiative and to innovate. Our pupils need to be exposed to world events and global issues and to appreciate the interdependence of countries. There are opportunities for them to learn foreign languages and participate in pupil exchange and immersion programs.

The teaching of civics and moral values will continue to be an important feature of our education system. Besides individual excellence, students will be taught to be good team workers, caring for and supportive of each other.

To ensure that pupils meet performance standards, national assessments are made at key stages in the system. The key stages are: at the end of primary schooling in the sixth grade, at the end of secondary schooling in the tenth grade and for those who proceed to pre-university studies, the end of the twelfth grade. These national assessments provide a common and rigorous yardstick to measure academic attainment at the key stages. They also provide a means of monitoring the progress of the education system as a whole.

A key education reform introduced last year is the provision of at least 10 years of general education for all pupils. Pupils are provided with a variety of education and training options at the post-secondary level. The more academically able will go into junior colleges for eleventh and twelfth grade studies to prepare for education in our two universities. We have set for ourselves a 20 percent age group participation rate at the university level. Pupils with inclinations in the technical and vocational skills areas join the polytechnics and institutes of technical education. Here a variety of courses, ranging from engineering to business to design, is available. The polytechnics are being expanded to cater to about 40 percent of an age group while the institutes of technical education are geared to take in 25 percent of an age group. The emphasis is on a well-educated and highly trained work force.

In Singapore, education is not compulsory. However, every child is in school as education is much sought after and parents and society place a high premium on education. Education is viewed as a partnership between the school, the home, and the community. Parental involvement in education and their aspirations for their children have spurred the government to enhance the quality of education. We also encourage community groups to involve themselves in our education system. Talent and support of successful members of each community are harnessed for the benefit of our pupils. Collaboration between schools, parents, and community groups helps to ensure high academic standards.

The high education standards that we have set require schools to be more responsive to the needs of pupils and of society. To facilitate this, we have, over the years, allowed the schools more autonomy. We have consciously given principals more authority and flexibility to manage their schools. We have also encouraged some schools to opt out of the government system and to go independent. With a minimum of constraints, the independent schools are in the position to spearhead innovative programs and set the pace for quality education.

> *"To achieve the goals of education of the 21st century, we have to bear in mind the importance of a quality teaching force and able school leaders."*

To achieve the goals of education of the 21st century, we have to bear in mind the importance of a quality teaching force and able school leaders. Ultimately, it is they who will lead them in the success of our plans. We have therefore set high standards in the recruitment and training of teachers and school leaders.

We in Singapore are pleased that APEC is extending its platform for cooperation beyond economic matters to educational issues. There is no denying that education is intrinsically linked to economic development. The economic progress of a country is a function of the quality of its human resource which, in turn, depends on its education system.

APEC's focus on education is timely. We could share our diverse experiences in education and encourage exchanges of pupils and educators. The education standards that we define today should enable our youths to be equipped with the knowledge, skills and values to lead productive and fulfilling lives in tomorrow's world. Thank you.

Discussion

The first question dealt with the financing of schools that had become independent. Minister Lee replied that these six schools, developed as an experiment in decentralization, receive the same amount of funding per student as do government-run schools, but that in addition they may charge various fees. The highest fees among the six schools is about 3,000 Singapore dollars per year. While the fees have met with opposition, it is hoped that the schools will be able to develop innovative ways of educating the nation's top students.

Mr. Lee responded to a question dealing with parental involvement in education by noting that parents in Singapore are very involved in their children's education. He expressed concern, however, that parents are putting too much pressure on their children to succeed. He was also asked about the impact of the trend toward both parents in the family holding jobs, replying that it does indeed create some difficulties. While noting that many families have people at home besides parents, such as grandparents or maids, to take care of children, day care facilities for younger children are also available.

In response to a question about the establishment of an open university in Singapore, Minister Lee described a cooperative plan with the Open University of the United Kingdom to allow working adults to study at the tertiary level. This program, offered through a private institution, will complement Singapore's existing two universities and its programs for continuing education at the secondary level. These programs include evening classes in basic skills, worksite training programs, and a skills development fund to which employers must contribute, but from which they may receive grants to use for worker training programs.

CHINESE TAIPEI

Kao-Wen Mao, Minister of Education

Summary of Address

The Minister noted that despite the rapid pace at which education has been developing in Chinese Taipei over the past 40 years, major educational reforms are necessary due to changing social and economic conditions. The government has already taken steps to deal with the challenges of providing technical and vocational education, reducing students' anxieties about crucial examinations, balancing educational development between urban and rural areas, and providing a capable workforce for constantly changing industries. Minister Mao listed seven goals for education to meet the demands of the next century. They are: (1) increasing the required number of years of schooling; (2) including more discussions of global problems in elementary and secondary classes; (3) promoting greater equality in educational opportunities; (4) reducing teacher workload and encouraging them to continue their study; (5) increasing the number of students attending college; (6) promoting lifelong education; and (7) establishing an Institute of Education to conduct educational research and to serve as a forum for policy development.

Address

Mr. Chairman, Ladies and Gentlemen. The year 2000 represents a momentous historical benchmark for people all over the world. The beginning of the new century symbolizes the beginning of new hope and new challenges. To ensure that our endeavors in the coming era are a success, it is vitally important that education should be at the forefront of global attention: prepared to meet all the challenges in our environment and society that will arise as we progress in the next century. This means that we must shape education standards today which will prove to be valid and effective in teaching the world of tomorrow. This will be no easy task, but there is no doubt about its necessity, urgency, and significance.

A major step in setting education on the right path for the future is being taken here and now through this meeting of APEC education ministers. I wish, therefore, to express our sincere appreciation to President Bush and to all those involved in this meeting; with this kind of foresight, concern and cooperation, I am confident that we can indeed find the right way to take education into the 21st century, so as to provide essential guidance and longlasting benefits for future generations.

Minister Mao holds a B.S. from National Taiwan University, an M.S. from the University of California at Berkeley, and a Ph.D. from Carnegie-Mellon University. He was a professor and dean at the College of Engineering of the National Tsing Hua University, Editor-in-Chief of the Journal of the Chinese Institute of Engineering, and served as President of the Chinese Institute of Industrial Engineering, the National Taiwan Institute of Technology, and the National Tsing Hua University.

Education in Chinese Taipei has been developing at a rapid pace over the past 40 some years due to the joint efforts of the government and the people. Our success in education is the result of progress and achievement in various fields such as politics, the economy, society, and the culture. Consequently, we are able to actively participate in international affairs. However, faced with the impact of rapid social changes, a fast-growing economy, changes in the industrial structure, and the pluralization of social values and to react to our society's needs both now and in the future, we must adjust our educational system and structure, revise our educational regulations, improve courses and their contents, and revolutionize teaching and counseling methods.

We will plan, and make appropriate adjustments, in order to ensure that our educational development serves two purposes: first, for prolonging and promoting our culture, and secondly, adjusting to trends in social development as well as improving effectiveness of our manpower and overall quality of life.

"...we must adjust our educational system and structure, revise our educational regulations, improve courses and their contents and revolutionize teaching and counseling methods."

To introduce to you our subject of educational development, I'm going to give a report on the present situation and the characteristics of our education system, our educational development and the problems and the future development of our education. The first part is the present situation and the characteristics of our education system. According to our Constitution, the goal of our educational and cultural development is to cultivate balanced development in five areas. That is morality, knowledge, physique, civics, and aesthetics. Essentially, we seek to provide our people with a healthy personality and a sound body and mind. The accomplishment of this goal depends on the entire education system.

The second part is the main points and problems of our educational development. We have to strongly emphasize balanced development in the five areas of education mentioned above, so as to formalize school teaching and train our next generation to be sound both in body and mind. Besides this, we have to strengthen school counseling, improve courses, give more freedom to local governments and schools to decide their own courses, revise the standards of courses in primary and secondary schools, rewrite textbooks, and then make the contents of textbooks more relevant to students.

To solve the problem of providing technical and vocational education, to reduce students' anxiety related to taking entrance examinations to enter higher levels of education, to balance educational development between urban and rural areas and to satisfy the staffing needs of upgrading industry, our government has: created more opportunities in higher education, strengthened liberal education, emphasized civic responsibility, planned and created a completed technical and vocational educational system, and worked out various plans for reform of the college entrance system.

If the goal of upgrading the quality of our education is to be accomplished, then upgrading the quality of instruction is prerequisite. For this reason, the government is drafting the "Teachers' Law," and revising the "Teachers Education Law" to authorize any college or university to train teachers for primary and secondary school levels. Also in the design stage is an educational process to give graduates from normal college or normal universities a test on their specialized subjects as the basis for award of a teaching certificate. In addition, the government is considering promulgating a "Teachers' Grievance System" to protect teachers' rights and interests.

> *"The government has also planned to have schools at every level implement continuing education for adults in order to realize the ideal that education is for all, and for life."*

For social development and for international educational and cultural interflow, the government (in line with the Six-Year National Construction Project) has to build up a social education system. This program is oriented to satisfy the educational requirements of all the people throughout their lives and includes balanced regional planning for carrying out social education measures to meet the public's needs. The government has also planned to have schools at every level implement continuing education for adults in order to realize the ideal that education is for all, and for life.

The third part involves setting future standards and directions for educational development. The 21st century will be a milestone for mankind. It will symbolize the starting point of a new hope. To meet the challenges of the coming century, the government will make every effort to attain the following goals:

- First lengthening compulsory education. There are two choices for lengthening the period of compulsory education: either to include kindergarten education or to incorporate senior high school education. In the beginning, any extension will be implemented on a non-compulsory basis.

- Second, continuing the reform in primary and secondary schools. The contents of future primary and secondary schools curricula will include more discussions in regard to common global problems such as world peace, environmental protection, antidrug education, leisure activity, childhood safety, sex education, and juvenile delinquency.

- Third, allocating more equal educational opportunities. The government will allocate an equal share of educational resources for all its people and advocate equal opportunity for all its people to receive education by improving the examination system, by emphasizing teaching methods, by stressing the teaching process, and by upgrading teaching quality.

- Fourth, upgrading the quality of education. To ensure that the quality of education continues to be upgraded, the government is especially considering reducing school size, reducing class size, reducing students' homework load, and narrowing down the ratio between teachers and students. And at the same time, we also intend to encourage teachers to attain a higher level of professionalism. The government will, furthermore, influence the quality of college students by tending towards leniency in admission policy, but stringency in graduation policy.

- Fifth, increasing the college student population. To strengthen our international competitive ability, to satisfy the need for advanced education, and to upgrade the quality of manpower, the government considers it necessary to increase the number of college students. It is expected that in the year 2000, college students will constitute 1.8 percent of the whole population. The current percentage is 1.36. If junior college students are included, the percentage will be 3 compare with the current percentage of 2.42.

> *"...the establishment of a leading Institute of Education has become a must, especially when we plan to revise and set education standards to meet the needs of the 21st century."*

- Sixth, promoting lifelong education. The promotion of lifelong education provides continuing education and learning opportunities, helps people to gain more knowledge and skills, builds character, and offers people the chance to keep pace with accelerating social change and fulfill their goals.

- Seventh, planning the establishment of a leading Institute of Education. There are at the present time various kinds of public and private institutions undertaking research related to education. However, these bodies are unable to provide an appropriate forum for educational policy formulation and development. Therefore, the establishment of a leading Institute of Education has become a must, especially when we plan to revise and set education standards to meet the needs of the 21st century.

In this report, I have summarized the situation and characteristics of our education system, our current educational development and problems, and directions of future educational development. I sincerely hope that our experience in educational development is worth sharing with our friends here today and welcome any comments you may have. Thank you.

Discussion

The Minister was asked to provide more details about the Institute of Education. He stated that its purpose will be to serve as an independent organization responsible for long-term education research and policy development. He emphasized that its independent status will help it limit controversy and deal with various interest groups. He also stated his hopes that the Institute will help bring about reforms in curriculum, teacher training, and the examination system.

THAILAND

Kaw Swasdi-Panich, Minister of Education

Summary of Address

Minister Swasdi-Panich briefly discussed how education standards in Thailand are viewed: as goals for national development, as a means of producing high academic achievement and developing human resources, and as a means of quality control over the local authorities. In the area of national development, education policy used to be concerned primarily with meeting the needs of economic expansion; it has now shifted toward developing adults who have strong basic skills and can adapt to ever changing circumstances, but who also have a firm moral and cultural foundation. Setting standards also helps to reach objectives in academic areas, as well as in the areas of cultural and environmental development. Finally, established education standards are valuable in assessing the progress of schools, both individually and collectively, which can in turn lead to the development of new policy. Minister Swasdi-Panich concluded his remarks by discussing possible future reforms, including de-centralization of management and an increase in community involvement in schools.

Address

Mr. Chairman, your Excellencies, Distinguished Participants, Ladies and Gentlemen, it is a great honor and a pleasure for me to have the opportunity to address this distinguished gathering today. For this, I would like to thank the American government for extending this invitation to me, as the leader of the Thai delegation.

I also would like to express my deep appreciation to President Bush for taking this initiative in convening the meeting of APEC Education Ministers, so that all of us in this region will be able to exchange our ideas and seek ways, and means for further cooperation.

Mr. Chairman, the cause of education is the cause for all concerned. All other kinds of development, be it economic or social or environmental development, will come to naught if we fail in education development. For in the long run, it is the well-balanced humane development in all aspects which will serve mankind in its search for prosperity and peace. A well-designed education system and process is consequently the goal to be achieved. It is therefore appropriate that we should endeavor to design our education standards, not only for today, but for tomorrow and for the 21st century to come.

Minister Swasdi-Panich holds a B.A. from Chulalongkorn University, an M.S. from Oklahoma Agricultural and Mechanical College, and an Ed.D. from the University of California at Berkelely. In addition, he also holds several certificates and honorary degrees. He has served as the Director-General of the Department of Secondary Education, Vice Chairman of the National Education Council, and Vice Chairman of the Executive Board of UNESCO.

Mr. Chairman, in Thailand, education standards are recognized in three aspects. They are: education standards viewed as education goals of national development, education standards viewed as the essence specified in the national curriculum, and education standards viewed as the quality control fixed in educational management and administration.

With reference to the education goals of national development, the standards as laid out in the national education development plan address the quality of youth in the areas of basic education, career education, morality education, natural resources and environmental preservation, cultural identity, and life adaptation toward the changing world in science and technology. There is a noticeable shift from the older concern with manpower planning to economic development in the 1960s and 1970s.

> *"It is expected that such standards as set in the curriculum would further promote human resource development for the nation, not only in the field of economic and social development, but also for cultural and environmental development."*

Secondly, with reference to the education standards contained in the national curriculum, we have to look into the structures of knowledge, skills, attitudes and values which have been identified clearly in the various subject areas starting from primary education to secondary education, to tertiary or university level. The best quality of educational outcomes fixed into the common curriculum to be implemented in all schools and institutions throughout the country can assure the high standards of education. Certain sets of educational objectives are regarded as required aspects in the areas of language, mathematics, science, social studies, work education, physical education, and character education. Aside from the knowledge and understanding, the process skills such as problem solving, learning how to learn and applying the information from the changing environment are also emphasized.

However, starting from secondary education, all students are encouraged to explore their aptitude and interests, and are provided with various elective courses to promote the outstanding students to the leadership echelons in the various professional fields in the country. It is expected that such standards as set in the curriculum would further promote human resource development for the nation, not only in the field of economic and social development, but also for cultural and environmental development.

Thirdly, with regard to quality control, at present, the reliance on centralized control combined with a certain kind of delegated authority is still the main characteristic. The outward flow of directives from the top down to the regional offices, provincial offices, and district offices, and the inward flow of reports from below upwards, are the two-way communication system typical of our monitoring system. The process of quality control starts from reviewing the current status of standard attainment, identifying the desired target of outcomes for the forthcoming years, developing and utilizing innovative learning and delivery systems to reach the expected standards, assessing learning outcomes in the following year, and using the feedback data for another cycle of educational improvement. By using this strategy, the quality of learning outcomes would be gradually improved toward the desired standards of education for all.

> *"For the 21st century, we may have to initiate reforms in the administrative system in which authority and controlling management are decentralized to the provincial and district levels."*

Mr. Chairman, the standards of our education system which I have summarized may be realizable within the limits of our financial and human constraints. However, major obstacles to the further expansion and improvement of education standards have also been identified. Among these is the over-centralized control and the lack of flexibility and freedom of self-development. For the 21st century, we may have to initiate reforms in the administrative system in which authority and controlling management are decentralized to the provincial and district levels. Schools should also be encouraged to be self-governing and accountable to the community. Extra budgetary sources of financing should also be promoted and fully utilized. The community should be gradually brought into the process of standard-setting and controlling. Such basic reforms of the management system are really essential for the strengthening and development of our schooling system in the next century.

Finally, before closing my speech, Mr. Chairman, I would like to congratulate many of our colleagues here for their success in the onerous task of educational development, and particularly our host country to which, we, in Asia, have owed so much in terms of human resource development since the second World War. Without the generous and kind assistance of our U.S. colleagues for the past 30 to 40 years, we do not really know where we would be now. To this everlasting debt, I would like to express our deep gratitude and look forward to the next century of our warm cooperation, hoping always that your leadership will contribute immensely towards world peace and prosperity in many years to come. Thank you.

Discussion

The Minister was asked to comment further on efforts to give greater managerial autonomy to the schools and particularly on obstacles hindering such reforms. He replied by stating that the major obstacle has been the highly centralized system of government established by law. Even after reforms aimed at granting more localized control have been enacted, the central government still maintains many channels of power that prevent localized planning.

APPENDIX I

DECLARATION OF THE APEC EDUCATION MINISTERIAL

"TOWARD EDUCATION STANDARDS FOR THE 21ST CENTURY"

August 6, 1992

1. Education Ministers and other senior education officials[1] from Australia, Brunei Darussalam, Canada, the People's Republic of China, Hong Kong, Indonesia, Japan, the Republic of Korea, New Zealand, the Republic of the Philippines, Singapore, Chinese Taipei, Thailand and the United States of America, met in Washington from 5 to 6 August 1992. The Ministers came together at the invitation of the President of the United States to discuss education standards and related issues of mutual interest.

2. The Ministers noted that this occasion is a recognition of the importance of education as a topic of international discussion and cooperation, and an affirmation of the direct link between education and economic development. The Ministers agreed that high-quality education for all has a positive impact on the level, growth, and distribution of income in the region, and on the quality of life of the region's people. Notwithstanding the importance of education for economic development, the Ministers emphasized the crucial role played by education in human development. In particular, Ministers noted that primary- and secondary-level education is a key to instilling qualities such as flexibility, creativity, and adaptability, that will be required in the Twenty-First Century. They affirmed that education plays a valuable role in developing students who are tolerant and respectful of others, view learning as a lifelong pursuit, possess a sense of their own cultural identity, and are responsible citizens of their communities, their societies, and the world.

Need for Cooperative Action in Education

3. The Ministers declared that there is a need for APEC participants to continue to work cooperatively to identify strategies for addressing the challenges presented to their education systems by the growing interdependence of economies and peoples in the Asia-Pacific region and the world. These challenges include the need for students to develop the skills required in a technologically sophisticated world and a better understanding of the cultures and economies of the Asia-Pacific region. The Ministers noted that the Asia-Pacific Economic Cooperation (APEC) forum is an appropriate and attractive arena within which to discuss these issues, due to APEC's ability to relate education to the broader economic, social, and cultural environment of the Asia-Pacific region.

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[1] (hereinafter referred to as "the Ministers")

"Toward Education Standards for the Twenty-First Century"

4. The Ministers declared that the unifying theme for APEC cooperation in education would be "Toward Education Standards for the Twenty-First Century." The Ministers noted that developing and maintaining education standards appropriate to the needs of the Twenty-First Century is a high priority for every education system in the Asia-Pacific region. The Ministers agreed to define "Education Standards for the Twenty-First Century" as those levels of achievement, performance, and personal development that each APEC member determines that its students must attain in order to prepare for productive and fulfilling lives in a rapidly changing world.

5. The Ministers noted that education standards for the Twenty-First Century must be set at high levels if societies are to ensure that students are well-prepared to be successful learners, workers, and citizens. At the same time, the Ministers acknowledged the importance of harmonizing such goals as striving for high levels of achievement, meeting the needs of a student population with a range of abilities and interests, and stimulating students' individuality, creativity, and capacity for independent thought.

6. The Ministers declared that standards of educational excellence are determined within each individual APEC member in order to meet its particular needs and consistent with its particular situation and culture. They agreed that, at this point in time, it probably is neither possible nor desirable to define common standards in all areas of education across the APEC region. Nevertheless, the Ministers agreed that in a limited number of specific curriculum areas such as mathematics, the natural sciences, and some technical subject areas, it may be possible, appropriate, and desirable to develop comparable standards. They expressed their interest in exploring the feasibility and desirability of such an undertaking.

7. Further, the Ministers affirmed that there are broad common interests in the Asia-Pacific region such as economic growth and cooperation, development of new technologies in the service of human well-being, protection of the environment, mutual understanding, and promotion of world peace. In addition, the Ministers declared that, as we approach the Twenty-First Century, the internationalization of the world economy has made it increasingly true that a substantial amount of the knowledge and many of the skills and attitudes needed in today's world are common across international boundaries. The Ministers noted as examples of such common needs that:

- All students need to develop a strong skills foundation in literacy and numeracy;
- All students need to learn to reason and solve problems;
- All students need to develop an international perspective as well as an understanding and appreciation of their own and other cultures, including those in the Asia-Pacific region;
- All students need to become familiar with technologies that can make human interaction with nature and knowledge more fruitful; and
- All students need to learn to work cooperatively with others.

Establishment of the APEC Education Forum

8. To address the need of each APEC member to ensure that its education standards respond to the needs of the Twenty-First Century, the Ministers declared their intent to engage in mutually beneficial cooperative activities in education. For the purposes of (a) developing and implementing these joint activities, and (b) carrying on further discussion of high-priority education issues, the Ministers agreed to endorse and support the establishment of an APEC Education Forum, working under the auspices and within the procedures of the APEC Human Resource Development (HRD) Working Group as recommended by the APEC Senior Officials meeting in Bangkok in June 1992. The Ministers agreed that this forum would also serve as a communication link among APEC members, for discussion of education-related issues.

9. By establishing the APEC Education Forum, the Ministers declared their intention to engage in specific, mutually beneficial joint initiatives of two types:

(i) the exchange of information. The Ministers agreed that there is a need for exchanges of information among APEC members for the purposes of increasing mutual understanding and improving their education systems.

(ii) the exchange of people for education-related purposes. The Ministers agreed that there is a need to promote exchanges of people directly involved in the development and delivery of education, such as education policy makers, researchers, teachers, education administrators, and students.

Exchanges of information and people could be undertaken for the purposes of conducting joint research, developing cooperative programs, learning more about effective educational methods and programs, and sharing knowledge with APEC counterparts.

General Principles for Exchanges of Information and People

10. In general, the Ministers declared that the exchanges of information and people described above should be based on the following principles:

- that initiatives shall offer the potential of mutual benefit to participating APEC members;
- that undertaking a specific initiative shall have the potential to improve education in APEC participants; and
- that initiatives selected shall not duplicate existing efforts in the region, and shall be coordinated with and informed by the results of such efforts.

Priority Areas for Cooperative Activities

11. The Ministers identified the following as possible areas for cooperative activities to be undertaken through the APEC Education Forum, but agreed that additional areas could be accepted if they are proposed and supported by the members:

a. Comparative studies of existing standards for curriculum content, and assessment of student performance against these standards, including comparative analyses of curricula, textbooks, and assessment instruments, particularly in the areas of mathematics, natural sciences, and technical subjects.

b. Research into effective instructional practices that meet the needs of the Twenty-First Century, including the appropriate and effective use of new technologies for instructional purposes, as well as widespread dissemination of the results of such research.

c. Enhancement of the capacity of teachers to offer effective instructional programs to students, paying attention to appropriate standards for teacher education and professional development as well as to school organization, and maintenance or, in some cases, enhancement of the prestige of teaching.

d. Identification of ways to ensure that the knowledge and skills learned in schools (in particular, in primary- and secondary-level education) are relevant to the needs and standards of the workplace and institutions of higher education. Also, exploration of ways of encouraging recognition of qualifications across the region.

e. Exploration of innovative and effective ways to encourage the sustainable development of skilled human resources in the region, in particular through exchanges which build skills and capacities within the region in ways that do not drain such resources from the economies in which they are most needed.

f. Identification of promising ways for students in the region to learn more about the languages, cultures, people, geography, and history of other APEC participants, thus potentially increasing mutual understanding within the region.

g. Increasing the availability, reliability, and comparability of information about the APEC region in general and education in the region in particular, through joint work to enhance and expand available databases and repositories of relevant informational materials.

Principles of Participation and Next Steps

12. The Ministers agreed that participation in the APEC Education Forum should be open to all APEC members. Specific cooperative initiatives may be proposed by any individual member or group of members that so desires. Participation in any given initiative is open to all members, but such participation is voluntary. Members participating in an initiative would be responsible for identifying the resources required to carry it out. The Ministers noted that funding of APEC activities is to be considered at the APEC Ministerial Meeting in Bangkok in September 1992, and that the operations of the Education Forum would take into account the deliberations of that meeting.

13. The Ministers agreed that each APEC member wishing to participate in the Education Forum should nominate a senior official and/or institution as coordinator, to assume secretariat

functions and act as a channel of communication on education issues between his or her own APEC member, other APEC members, and the Human Resources Development Working Group.

14. The Ministers agreed that officials would formulate further details regarding the management and activities of the Education Forum as soon as possible. A summary of these details would be presented to the next meeting of the Human Resources Development Working Group. In addition, the Ministers requested that the United States report on the Education Ministerial at the APEC meeting of ministers in Bangkok in September 1992.

Washington, D.C., August 6, 1992

APPENDIX II

WHAT IS ASIA-PACIFIC ECONOMIC COOPERATION?

Asia-Pacific Economic Cooperation (APEC) was formed in 1989 as a new mechanism for multilateral cooperation among the economies of the Pacific region. Its members are Australia, Brunei Darussalam, Canada, the People's Republic of China, Hong Kong, Indonesia, Japan, the Republic of Korea, Malaysia, New Zealand, the Republic of the Philippines, Singapore, Chinese Taipei, Thailand, and the United States.

Why focus on the Pacific? Formation of APEC symbolizes the dramatic increase in relations among economies of the Asia-Pacific region over the past decade. For example, in 1991, U.S. trade across the Pacific was 43 percent greater than trade across the Atlantic.

APEC goals. APEC aims to sustain growth, development, and improved living standards in the Asia-Pacific region and the world, and to promote free trade. APEC provides a forum for ministerial discussion on a broad range of issues related to these goals.

APEC structure. APEC has operated to date as an informal grouping of economies without a formal structure; decisions have been made at meetings by senior government officials from the member economies. Chairmanship of APEC rotates, and will be occupied in 1993 by the United States. Beginning in 1993, member economies will contribute to a small central fund and a secretariat will be established in Singapore.

The APEC Human Resources Development (HRD) Working Group. APEC has 10 working groups to carry out projects in areas like trade, telecommunications, and marine resource conservation. Discussion of education and training issues has taken place under the Human Resource Development (HRD) Working Group.

The APEC Education Forum. Education ministers from 14 APEC members met in Washington in August 1992 at the invitation of President Bush and Secretary Alexander. They agreed to form an APEC Education Forum within the HRD Working Group, to coordinate joint activities in the field of education. In their joint declaration, ministers identified seven priority areas for cooperative activities, including curriculum and assessment standards, preparation for work, education statistics, and teacher development.

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